



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

ROBT. B. RIFENBERICK
CONSULTING ENGINEER

10-26-1914



VALUATION
OF
PUBLIC SERVICE CORPORATIONS

**LEGAL AND ECONOMIC PHASES OF VALUATION FOR
RATE MAKING AND PUBLIC PURCHASE**

BY
ROBERT H. ^{Harvey}WHITTEN, PH. D.

SUPPLEMENT

THE BANKS LAW PUBLISHING CO.
NEW YORK
1914

**Transportation
Library**

HD

2166

.W624

Suppl.

**COPYRIGHT, 1914, BY
ROBERT H. WHITTEN**

ML 15.9-5 0

PREFACE

The theory and practice of valuation have developed rapidly since the publication of *Valuation of Public Service Corporations* in the Spring of 1912. The present supplement contains the numerous court and commission decisions since the Spring of 1912 and also a further development of the author's statement of the legal and economic principles of valuation.

The court and commission decisions are arranged, discussed and fully quoted or abstracted according to the method that has proved convenient and practical in the original volume. As the same chapter numbers and headings are retained and a consolidated index included, the two volumes may be used with much the same facility as an enlarged and revised edition.

ROBERT H. WHITTEN.

BROOKLYN, July, 1914.

TABLE OF CONTENTS

Preface.....	page	iii
Table of Cases.....	"	xvii

CHAPTER I

PURPOSE OF VALUATION

- § 1001. Different meanings of term "value."
- 1002. Value dependent on purpose.
- 1003. California Commission makes no findings of value without reference to purpose.
- 1004. Distinction between value for rate and purchase purposes.
- 1005. Distinction between value for tax and rate purposes.
- 1006. Definition and theory of value—New York Public Service Commission, Second District.

CHAPTER II

FAIR VALUE FOR RATE PURPOSES

- § 1010. No authoritative standard of fair value.
- 1011. Need for some standard of value.
- 1012. Reasonable rate of charge and cost of production.
- 1013. Actual cost and reproduction cost as factors in determining cost of production.
- 1014. Actual cost the normal standard.
- 1015. Theory and limitations of the reproduction standard.
- 1016. Definition of actual cost and method of its determination.
- 1017. Standard of value as affected by past conditions and vested rights.
- 1018. Normal actual cost should at least be adopted for the future.

DECISIONS RELATIVE TO FAIR VALUE

- § 1019. United States Supreme Court, 1896.
- 1020. Justice Brewer in *Cotting v. Kansas City Stock Yards Company*, 1901—Value of service to consumer.
- 1021. United States Supreme Court in *Minnesota Rate Cases*.
- 1022. United States Supreme Court—Proof of confiscation.
- 1023. Senate Committee on Interstate Commerce in reporting railroad valuation bill.

- § 1024. Committee on Valuation of National Association of Railway Commissioners.
1025. Arizona Commission.
1026. Kansas City street railway appraisal.
1027. Nevada Commission—Value of service to consumer.
1028. New Jersey Commission.
1029. New Jersey Supreme Court—Value to individual consumer.
1030. New York Commission, Second District.
1031. Wisconsin Commission.
1032. Wisconsin Commission—Allowance for economical management.

RELATION OF CAPITALIZATION TO FAIR VALUE

- § 1033. Capitalization has no necessary relation to fair value.
1034. United States Supreme Court, 1909.
1035. Interstate Commerce Commission, 1909.
1036. Federal courts.
1037. California Supreme Court, 1897.
1038. Maryland Commission.
1039. Minnesota Supreme Court, 1897.
1040. New York Commission, Second District.
1041. Nebraska Commission.
1042. St. Louis Commission.
1043. Wisconsin Commission.

CHAPTER III

MARKET VALUE AND EARNING POWER AS RELATED TO FAIR VALUE FOR RATE PURPOSES

- § 1050. Competition and monopoly value in railroad appraisals.
1051. The misplaced or partially obsolete plant.
1052. Purchase price as evidence of fair value—New Hampshire Commission.

CHAPTER IV

COST OF REPRODUCTION AS AN ELEMENT IN FAIR VALUE FOR RATE PURPOSES

- § 1060. Federal Court in Alabama railroad rate cases.
1061. Nebraska Commission.
1062. Difficulties of reproduction method—Maryland Commission.
1063. Difficulties of reproduction method—New York Commission, Second District.
1064. Actual cost used to test reproduction estimate—New Jersey Commission.

- § 1065. Plant construction under boom conditions—Nevada Commission.
- 1066. Criticism of reproduction method—New Hampshire Commission.

CHAPTER V

ACTUAL COST AS AN ELEMENT IN FAIR VALUE FOR RATE PURPOSES

- § 1070. California Commission.
- 1071. New Hampshire Commission.
- 1072. St. Louis Commission.
- 1073. Difficulties of the actual-cost method—New York Commission, Second District.
- 1074. Actual cost under construction contract—New York Commission, First District.
- 1075. Purchase price at foreclosure sale—Minnesota Supreme Court, 1897.

CHAPTER VI

VALUATION OF LAND

- § 1080. The Minnesota rate cases and market value as a basis for land value.
- 1081. Appreciation should be treated as income or considered in fixing the rate of return.

DECISIONS RELATIVE TO APPRECIATION IN LAND VALUE

- § 1082. Federal Court in Alabama railroad rate cases.
- 1083. Arizona Commission.
- 1084. California Commission—Actual cost the logical rule.
- 1085. Chicago telephone appraisal—Appreciation an offset to development expense and depreciation.
- 1086. New Hampshire Commission—Appreciation an offset to development expense.
- 1087. New York Appellate Division and Court of Appeals.
- 1088. New York Commission, Second District—Distinction between land and other property.
- 1089. St. Louis Commission—Distinction between land and other property.
- 1090. Wisconsin Commission—Appreciation not an offset to depreciation—Case of decline in value.

DECISIONS RELATIVE TO MARKET VALUE AND REPRODUCTION METHODS OF ESTIMATING LAND VALUE

- § 1091. United States Supreme Court in Minnesota rate cases.
- 1092. Federal Court.

- § 1093. California Commission—Method of determining reproduction cost—Fair value may be less than market value.
- 1094. Maryland Commission—Market value.
- 1095. Michigan Commission—Capitalization of costs incident to acquisition of land.
- 1096. New Jersey railroad tax appraisal, 1911—Reproduction method rejected.
- 1097. New Jersey Commission—Market value.

CHAPTER VII

PAVEMENT OVER MAINS

- § 1109. Federal Court.
- 1110. California Commission.
- 1111. Indiana Commission.
- 1112. Maryland Commission.
- 1113. New Jersey Commission.
- 1114. New York Commission, Second District.
- 1115. New York Appellate Division and Courts of Appeals.
- 1116. New York Appellate Division—Special franchise tax case.
- 1117. Wisconsin Commission—Rate cases.
- 1118. Wisconsin Commission—Purchase cases.
- 1119. Wisconsin Commission and Supreme Court—Pavement over services excluded in purchase case.

CHAPTER VIII

PROPERTY DONATED OR ACQUIRED WITHOUT COST

- § 1130. Arizona Commission—Appliances loaned to consumers.
- 1131. California Commission—Railroad land.
- 1132. New Jersey Commission—Gratuitous pole locations.
- 1133. New York Commission, Second District—Gas services paid for by consumers.
- 1134. Wisconsin Commission—Railway right of way and easements.
- 1135. Wisconsin Commission—Water services in purchase case.

CHAPTER IX

PROPERTY CONSTRUCTED OUT OF SURPLUS

- § 1140. Massachusetts Gas and Electric Light Commission—Haverhill gas rate case.
- 1141. Massachusetts Supreme Court—Fall River capitalization case.
- 1142. New Hampshire Commission—Railroad rate report.

CHAPTER X

UNUSED PROPERTY

- § 1150. Unused exchange building held pending sale.
- 1151. Little-used generating station—New York Commission, First District.
- 1152. Little-used gas plant purchased to avoid competition—New York Commission, Second District.
- 1153. Unused land—New York Commission, Second District.

AUXILIARY AND EMERGENCY PLANT

- § 1154. California Commission—Emergency electricity supply.
- 1155. New Hampshire Commission—Auxiliary steam plant.

DETERMINATION OF ADEQUATE INVESTMENT IN PLANT

- § 1156. Arizona Commission.
- 1157. Canadian Board of Railway Commissioners—Montreal telephone rate case.
- 1158. Massachusetts Gas and Electric Light Commission—Haverhill gas rate case.
- 1159. Nebraska Commission—Lincoln telephone rate case.
- 1160. Nevada Commission—Cost of unnecessarily large plant disallowed.
- 1161. New York Commission, First District—Required future expenditures.
- 1162. Wisconsin Commission—Case of plant that had reached its capacity.

CHAPTER XI

UNIT PRICES. AVERAGE PRICE V. PRESENT PRICE

- § 1170. Definitions of unit cost.
- 1171. Method of obtaining manufacturers' quotations criticized—New Hampshire Commission.

AVERAGE PRICE V. PRESENT PRICE

- § 1172. Federal Court, 1911—Alabama railroad rate cases.
- 1173. New Hampshire Commission—Average prices used for copper wire.
- 1174. New York Commission, Second District—Fluctuations in price of cast-iron pipe.

CHAPTER XII

OVERHEAD CHARGES

- § 1180. Federal Court—22.2 per cent on inventory-reproduction-cost.
- 1181. Arizona Commission—12 per cent on cost-of-reproduction-less-depreciation.
- 1182. California Commission—15 per cent on reproduction cost of gas plant.
- 1183. Chicago telephone appraisal—15 per cent on inventory-reproduction-cost.
- 1184. Commonwealth Edison Company appraisal—15.4 per cent on inventory-reproduction-cost.
- 1185. Great Britain Railway and Canal Commission—Appraisal of telephone plant for purchase purposes—31.4 per cent on inventory-reproduction-cost.
- 1186. New Hampshire Commission—15 per cent.
- 1187. Kansas City street railway appraisal.
- 1188. Nebraska Commission—Telephone appraisals.
- 1189. New Jersey Commission—17.6 per cent on inventory-reproduction-cost.
- 1190. New York Commission, First District—New railway constructed by contract.
- 1191. New York Commission, First District—Methods followed.
- 1192. New York Commission, Second District—Engineering estimates of overhead charges considered excessive.
- 1193. St. Louis Commission—12.2 per cent on inventory-reproduction-cost.
- 1194. Toronto street railway appraisal.
- 1195. Toronto electric plant appraisal—15 per cent on inventory-reproduction-cost.
- 1196. Wisconsin Commission—12 per cent and 15 per cent on inventory-reproduction-cost.
- 1197. Legal and organization expenses—New York Commission, Second District.
- 1198. Reorganization expenses—Wisconsin Commission.
- 1199. Casualty insurance—Oklahoma Commission.
- 1200. Contingencies—Railway and Canal Commission of Great Britain.
- 1201. Contractor's profits—Railway and Canal Commission of Great Britain.
- 1202. Contractor's profit—New Hampshire Commission.
- 1203. Interest during construction—Railway and Canal Commission of Great Britain.
- 1204. Promotion—Michigan Commission.

CHAPTER XIII

DISCOUNT ON BONDS

- § 1210. Federal Court.
- 1211. Commonwealth Edison appraisal, Chicago—Discount and brokerage.
- 1212. Railway and Canal Commission of Great Britain—Brokerage.
- 1213. Kansas City street railway appraisal.
- 1214. Michigan Commission—Brokerage.
- 1215. New York Commission, Second District.
- 1216. Wisconsin Commission.

CHAPTER XIV

WORKING CAPITAL

- § 1230. Federal Court.
- 1231. Arizona Commission—Gas and electric plant.
- 1232. Chicago telephone appraisal.
- 1233. Commonwealth Edison appraisal, Chicago.
- 1234. Nebraska Commission—Lincoln telephone plant.
- 1235. New Jersey Commission—Public Service Gas Company case.
- 1236. New York Commission, Second District—Buffalo gas rate case
- 1237. Wisconsin Commission.

CHAPTER XV

PIECEMEAL CONSTRUCTION

- § 1250. New York Commission, Second District.
- 1251. Railway and Canal Commission of Great Britain—Piecemeal construction and separate establishment.

CHAPTER XVI

ADAPTATION AND SOLIDIFICATION

- § 1260. Federal Court—Alabama and South Dakota railroad rate cases—Solidification.
- 1261. California Commission—Solidification of road-bed.
- 1262. New Jersey railroad appraisal for tax purposes.

CHAPTER XVII

PHYSICAL DEPRECIATION

- § 1270. Straight-line *v.* sinking-fund method.
- 1271. Depreciation of overhead charges.

CHAPTER XVIII**COST-NEW V. COST-LESS-DEPRECIATION**

- § 1280. Objection to deduction of accrued depreciation.
- 1281. Assuming straight-line method, depreciation should be deducted.
- 1282. Objection that no depreciation reserve is needed to offset normal depreciation.
- 1283. Cost-less-depreciation constitutes the total capital contributed by the security holders.
- 1284. Uniform annual-investment-cost method.
- 1285. Comparison of four methods of determining annual and accrued depreciation.
- 1286. Application to heretofore unregulated utility.
- 1287. Distinction between accrued depreciation and operating efficiency.
- 1288. Hayes on deduction of accrued depreciation.

DECISIONS RELATIVE TO ACCRUED DEPRECIATION

- § 1289. United States Supreme Court in Minnesota rate cases.
- 1290. Federal Court.
- 1291. Arizona Commission.
- 1292. California Commission.
- 1293. Chicago telephone appraisal.
- 1294. Railway and Canal Commission of Great Britain—Reduction of estimated life on account of future functional depreciation.
- 1295. Maryland Commission.
- 1296. New Hampshire Commission.
- 1297. New Jersey Commission—Distinction between actual and theoretical depreciation.
- 1298. New York Appellate Division in Kings County Lighting case.
- 1299. New York Commission, Second District.
- 1300. St. Louis Commission—Accrued depreciation should not be deducted.
- 1301. Washington Commission.
- 1302. Wisconsin Commission—Depreciation reserve.

CHAPTER XIX**FUNCTIONAL DEPRECIATION**

- § 1310. Cost of supersession an operating expense—United States Commerce Court and Supreme Court.
- 1311. Obsolete type of machine—Wisconsin Commission.

TREATMENT OF SUPERSEDED PROPERTY IN RATE CASES

- § 1312. Arizona Commission.
- 1313. California Commission.
- 1314. Nebraska Commission.
- 1315. Wisconsin Commission.

CHAPTER XX

ANNUAL DEPRECIATION ALLOWANCE

- § 1320. Diversion of depreciation reserve—Chicago telephone appraisal.
- 1321. Investment of depreciation reserve.
- 1322. Interest on depreciation reserve—Federal Court in Alabama railroad rate case.

DECISIONS RELATIVE TO ANNUAL DEPRECIATION ALLOWANCE

- § 1323. Arizona Commission—Electric plant.
- 1324. California Commission—Electric plant and telephone plant.
- 1325. Board of Railway Commissioners, Canada—Telephone plant.
- 1326. Commonwealth Edison Company, Chicago.
- 1327. Maryland Commission—Sinking fund.
- 1328. Nebraska Commission—Depreciation and maintenance of telephone plant.
- 1329. Nevada Commission—Life of mining camp.
- 1330. New Jersey Commission—Gas plant.
- 1331. New York Commission, Second District—Annual allowance for gas plant and amortization under limited-term franchise.
- 1332. Oklahoma Commission—Telephone plant—No allowance for certain property.
- 1333. Wisconsin Commission.
- 1334. Federal Court in Alabama railroad rate case.

CHAPTER XXI

GOING CONCERN IN PURCHASE CASES

- § 1340. Railway and Canal Commission of Great Britain—Cost of obtaining telephone subscribers' agreements.
- 1341. New York Appellate Division—Capitalization of purchased railway.
- 1342. Wisconsin Supreme Court—Review of determination of Commission.

CHAPTER XXII**GOING CONCERN IN RATE CASES**

- § 1350. The theory of going value.
1351. Federal Court—Montana railroad rate case.
1352. Federal Court—Des Moines gas rate case.
1353. Arizona Commission and Federal Court.
1354. California Commission.
1355. Chicago telephone appraisal.
1356. Commonwealth Edison Company, Chicago—Allowance for free wiring and consolidation costs.
1357. Georgia Commission—Cost of attaching business should not be capitalized.
1358. Maryland Commission—Allowance refused for early losses occasioned by competition.
1359. Massachusetts Board of Gas and Electric Light Commissioners—Haverhill gas rate case.
1360. Michigan Commission—Capitalization of estimated early losses.
1361. Nebraska Commission.
1362. Nevada Commission—Allowance for going value disapproved.
1363. New Hampshire Commission—Actual cost of establishing a paying business—Early losses may not be capitalized.
1364. New Jersey Commission and Supreme Court—Going value allowed.
1365. New York Commission, First District, and New York courts.
1366. New York Commission, Second District—Allowance for going value, if any, should be made in the rate of return allowed.
1367. St. Louis Commission—Expenditures to obtain business are not capital charges but operating expenses.
1368. Washington Commission.
1369. Indiana Commission.

CHAPTER XXIV**TREATMENT OF GOING VALUE BY THE WISCONSIN COMMISSION**

- § 1380. Waterworks purchase case—General policy defined—Unrequited cost of establishing business.
1381. Sheboygan gas rate case—Consideration of relatively poor development of business.
1382. Limitations of early-deficit method and consideration of cost of reproducing the business.
1383. Criticism of comparative-plant method.
1384. Consideration of estimate of cost of reproducing a paying business.
1385. Cost of services and house piping.

CHAPTER XXVI

FRANCHISE VALUE IN PURCHASE CASES

- § 1390. Railway and Canal Commission of Great Britain—Actual cost of obtaining telephone right of way.
1391. New York Appellate Division—Value determined by earnings under reasonable rates.
1392. Quebec Commission—Capitalization of franchise value on merger.
1393. Wisconsin Supreme Court—Value of indeterminate permit.

CHAPTER XXVII

FRANCHISE VALUE IN RATE CASES

- § 1400. Federal Court in Alabama railroad rate cases—Tax assessment of franchises included in fair value.
1401. Appraisal of Commonwealth Edison Company, Chicago.
1402. Georgia Commission.
1403. Nebraska Commission.
1404. Maryland Commission—Tax assessment of easements in streets tentatively included.
1405. Massachusetts Gas and Electric Light Commission.
1406. New Jersey Commission and Supreme Court.
1407. New York Commission, Second District.
1408. St. Louis Commission—Telephone right of way included at actual cost.
1409. Wisconsin Commission—Annual payments and free service as part of franchise cost.

CHAPTER XXVIII

APPRAISAL OF FRANCHISE VALUE

- § 1420. Appraisal of Kansas City street railway.
1421. Appraisal of New Jersey railroads for tax purposes.

CHAPTER XXX

RETURN ON INVESTMENT

- § 1430. Sliding-scale method recommended—Maryland Commission.
1431. Surplus should be created to equalize dividends.
1432. Relation of rates to service—Maryland Commission.

DECISIONS RELATIVE TO RATE OF RETURN

- § 1433. United States Supreme Court.
- 1434. Federal Court in Alabama railroad rate cases.
- 1435. Arizona Commission.
- 1436. California Commission.
- 1437. Canada Commission.
- 1438. Chicago telephone appraisal.
- 1439. Commonwealth Edison report, Chicago.
- 1440. Maryland Commission.
- 1441. Nebraska Commission.
- 1442. Nevada Commission.
- 1443. New Jersey Commission.
- 1444. New York Commission, Second District.
- 1445. Wisconsin Commission.

CHAPTER XXXIII

CONTRACTS, WATER POWER, AND PATENT RIGHTS

- § 1450. Municipal lighting contract—New York Commission, First District.
- 1451. Contracts with consumers—California Commission.
- 1452. Water-power contract—Federal Court and Arizona Commission.
- 1453. Water-power contract—Nevada Commission.
- 1454. Water power—New Hampshire Commission.
- 1455. Water power—Wisconsin Commission.
- 1456. Water-power contract—New York Commission, Second District.
- 1457. Rental of transmitters and receivers—California Commission.
- 1458. Rental of transmitters and receivers—Oklahoma Commission.
- 1459. Contract with General Electric Company—New York Commission, Second District.
- 1460. Patent rights—Wisconsin Commission.
- 1461. Savings effected by joint operation—Arizona Commission.
- 1462. Water rights—United States Supreme Court.

Index.....page 1371

TABLE OF CASES CITED

Alabama Railroad Rate Cases.
See under the several roads affected, namely: Central of Georgia Railway Company, etc.; Louisville and Nashville Railroad Company, etc.; South and North Alabama Railroad Company, etc.; Western of Alabama Railway Company.

American Society of Civil Engineers, *Proceedings*, January, 1911, page 119. J. E. Willoughby.

§ 1015, Fair value.

Appleton Water Works Company v. Railroad Commission of Wisconsin, 154 Wisconsin, 121, 142 N. W. 476, May 31, 1913.

§ 1119, Pavement over mains.

1342, Going concern in purchase cases.

1393, Franchise value in purchase cases.

Bachrach v. Consolidated Gas, Electric Light and Power Company of Baltimore, 14 A. T. & T. Co. Com. L. 154, January 13, 1913.

§ 1038, Relation of capitalization to fair value.

1062, Cost of reproduction.

1094, Land.

1298, Accrued depreciation.

1358, Going concern in rate cases.

§ 1404, Franchise value in rate cases.

1430, 1432, 1440, Return on investment.

Berlin Electric Light Company, Application for Approval of Sale of, 3 N. H. P. S. C. 174, 21 A. T. & T. Co. Com. L. 781, August 30, 1913.

§ 1010, Fair value for rate purposes.

1071, Actual cost.

1086, Land.

1155, Unused property.

1171, Unit prices.

1173, Average prices.

1186, 1202, Overhead charges.

1271, Physical depreciation.

1296, Accrued depreciation.

1363, Going concern in rate cases.

1454, Contracts, water power, and patent rights.

Bolen v. Pioneer Telephone and Telegraph Company, Order No. 770, December 4, 1913, Oklahoma Corporation Commission.

§ 1199, Overhead charges.

1332, Annual depreciation charges.

1458, Contracts, water power, and patent rights.

Bonbright v. Corporation Commission of Arizona, 210 Fed. 44, November 19, 1913.

- § 1181, Overhead charges.
 1230, Working capital.
 1290, Accrued depreciation.
 1353, Going concern in rate cases.
 1452, Contracts, water power, and patent rights.
- Buffalo Gas Company v. City of Buffalo**, 3 P. S. C. 2d D. (N. Y.) 553, 23 A. T. & T. Co. Com. L. 244, February 4, 1913.
 § 1010, 1030, Fair value for rate purposes.
 1063, Cost of reproduction.
 1073, Actual cost.
 1114, Pavement over mains.
 1133, Property donated.
 1152, 1153, Unused property.
 1174, Average prices.
 1197, Overhead charges.
 1215, Discount on bonds.
 1236, Working capital.
 1299, Accrued depreciation.
 1331, Annual depreciation allowance.
 1444, Return on investment.
- Cedar Rapids Gas Light Company v. Cedar Rapids**, 223 U. S. 655, March 11, 1912.
 § 1352, Going concern in rate cases.
- Central of Georgia Railway Company v. Railroad Commission of Alabama**, Report of Special Master, January 8, 1912.
 § 1092, Land.
- Chicago and Northwestern Railway Company v. Smith**, 210 Fed. 632, January 20, 1914.
 § 1092, Land.
- § 1260, Adaptation and solidification.
- Chicago Telephone Company, Report on the Investigation of, October 25, 1912.**
 § 1085, Land.
 1183, Overhead charges.
 1232, Working capital.
 1293, Accrued depreciation.
 1320, Annual depreciation allowance.
 1355, Going concern in rate cases.
 1438, Return on investment.
- City of Ely v. Ely Light and Power Company**, 24 A. T. & T. Co. Com. L. 578, June 7, 1913.
 § 1027, Fair value for rate purposes.
 1065, Cost of reproduction.
 1160, Adequate investment.
 1329, Annual depreciation allowance.
 1362, Going concern in rate cases.
 1442, Return on investment.
 1453, Contracts, water power, and patent rights.
- City of Green Bay v. Green Bay Water Company**, 12 W. R. C. R. 236, January 6, 1913.
 § 1216, Discount on bonds.
 1333, Annual depreciation allowance.
 1383, Going concern — Wisconsin rule.
 1445, Return on investment.
- City of Louisville v. Cumberland Telephone and Telegraph Company**, 225 U. S. 430, June 7, 1912.
 § 1433, Return on investment.

City of Milwaukee v. Milwaukee Gas Light Company, 12 W. R. C. R. 441, 24 A. T. & T. Co. Com. L. 708, August 14, 1913.

§ 1032, Fair value for rate purposes.

1117, Pavement over mains.

1196, Overhead charges.

1383, 1384, 1385, Going concern — Wisconsin rule.

City of Milwaukee v. The Milwaukee Electric Railway and Light Company, 11 W. R. C. R. 1, 14 A. T. & T. Co. Com. L. 197, August 23, 1912.

§ 1005, Purpose of valuation.

1031, Fair value for rate purposes.

1043, Relation of capitalization to fair value.

1090, Land.

1117, Pavement over mains.

1170, Unit prices.

1196, Overhead charges.

1216, Discount on bonds.

1237, Working capital.

1302, Accrued depreciation.

1315, Functional depreciation.

1333, Annual depreciation allowance.

1382, Going concern — Wisconsin rule.

1445, Return on investment.

1460, Contracts, water power, and patent rights.

City of Montreal, In the Matter of the Application of, for Reduction in Telephone Rates, 13 A. T. & T. Co. Com. L. 93, October 28, 1912.

§ 1157, Adequate investment.

1322, Annual depreciation reserve.

§ 1327, Annual depreciation allowance.

1437, Return on investment.

City of Palo Alto v. Palo Alto Gas Company, 2 Cal. R. C. 300, 18 A. T. & T. Co. Com. L. 966, March 12, 1913.

§ 1110, Pavement over mains.

1182, Overhead charges.

1292, Accrued depreciation.

1354, Going concern in rate cases.

1436, Return on investment.

City of Rhinelander v. Rhinelander Lighting Company, 9 W. R. C. R. 406, July 11, 1912.

§ 1409, Franchise value in rate cases.

1455, Contracts, water power, and patent rights.

Commonwealth Edison Company, Investigation and Report on, to the City Council of Chicago, May 14, 1913.

§ 1184, Overhead charges.

1211, Discount on bonds.

1233, Working capital.

1271, Physical depreciation.

1326, Annual depreciation allowance.

1356, Going concern in rate cases.

1401, Franchise value in rate cases.

1431, 1439, Return on investment.

Consolidated Gas, Electric Light and Power Company of Baltimore, In the Matter of the Application of, 3 Md. P. S. C. R. 104, April 21, 1912.

§ 1038, Relation of capitalization to fair value.

Cotting v. Kansas City Stock Yards Company, 183 U. S. 79, November 25, 1901.

§ 1020, Fair value for rate purposes.

Covington and Lexington Turnpike Road Company v. Sanford, 164 U. S. 578, 17 Sup. Ct. 198, 41 L. Ed. 560, December 14, 1896.

§ 1019, Fair value for rate purposes.

Des Moines Gas Company v. City of Des Moines, 199 Fed. 204, August 21, 1912.

§ 1109, Pavement over mains.
1230, Working capital.
1352, Going concern in rate cases.

Diamond State Telephone Company, In the Matter of the Application for the Approval of the Sale of, 3 Md. P. S. C. R. 219, July 10, 1912.

§ 1038, Relation of capitalization to fair value.

Fall River Gas Works Company v. Board of Gas and Electric Light Commissioners, 214 Mass. 529, 102 N. E. 475, May 23, 1913.

§ 1141, Invested surplus.

Fuhrmann v. Buffalo General Electric Company, 3 P. S. C. 2d D. (N. Y.) 739, 18 A. T. & T. Co. Com. L. 1094, April 2, 1913.

§ 1040, Relation of capitalization to fair value.

1192, Overhead charges.
1366, Going concern in rate cases.

§ 1407, Franchise value in rate cases.

1459, Contracts, water power, and patent rights.

Fuhrmann v. Cataract and Conduit Company, 3 P. S. C. 2d D. (N. Y.) 656, 18 A. T. & T. Co. Com. L. 1015, April 2, 1913.

§ 1004, 1006, Purpose of valuation.

1030, Fair value for rate purposes.

1063, Cost of reproduction.

1073, Actual cost.

1088, Land.

1250, Piecemeal construction.

1270, Physical depreciation.

1299, Accrued depreciation.

1331, Annual depreciation allowance.

1366, Going concern in rate cases.

1444, Return on investment.

1456, Contracts, water power, and patent rights.

Gately & Hurley v. Delaware and Atlantic Telegraph and Telephone Company, 1 N. J. B. P. U. C. 519, 14 A. T. & T. Co. Com. L. 39, January 7, 1913.

§ 1028, Fair value for rate purposes.

1097, Land.

1113, Pavement over mains.

1132, Property donated.

1297, Accrued depreciation.

1364, Going concern in rate cases.

1443, Return on investment.

Grafton County Electric Light and Power Company, Petitions of, 28 A. T. & T.

TABLE OF CASES CITED

xxi

Co. Com. L. 533, February 3, 1914.

- § 1052, Market value.
- 1066, Cost of reproduction.
- 1071, Actual cost.
- 1363, Going concern in rate cases.
- 1454, Contracts, water power, and patent rights.

Haverhill Petitions, In Re, 15 A. T. & T. Co. Com. L. 324, December 31, 1912.

- § 1140, Invested surplus.
- 1158, Adequate investment.
- 1359, Going concern in rate cases.
- 1405, Franchise value in rate cases.

Havre de Grace v. Havre de Grace Electric Company, 27 A. T. & T. Co. Com. L. 296, November 28, 1913.

- § 1327, Annual depreciation allowance.

Hill v. Antigo Water Company, 3 W. R. C. 623, August 3, 1909.

- § 1409, Franchise value in rate cases.

Huffman v. Tucson Gas, Electric Light and Power Company, 21 A. T. & T. Co. Com. L. 725, July 9, 1913.

- § 1130, Property donated.
- 1181, Overhead charges.
- 1231, Working capital.
- 1291, Accrued depreciation.
- 1312, Functional depreciation.
- 1323, Annual depreciation allowance.
- 1353, Going concern in rate cases.
- 1435, Return on investment.

§ 1461, Contracts, water power, and patent rights.

Kansas City Southern Railway Company v. United States, 204 Fed. 641, April 21, 1913; on Appeal to U. S. Supreme Court, 231 U. S. 423, December 1, 1913.

§ 1310, Functional depreciation.

Kings County Lighting Company, In Re Rates, 2 P. S. C. 1st D. (N. Y.) 659.

§ 1450, Contracts, water power, and patent rights.

Kings County Lighting Company, People ex rel. v. Willcox, 156 App. Div. N. Y. 603, May 9, 1913.

- § 1087, Land.
- 1115, Pavement over mains.
- 1298, Accrued depreciation.
- 1365, Going concern in rate cases.

Kings County Lighting Company, People ex rel. v. Willcox, 210 N. Y. 479, March 24, 1914.

- § 1115, Pavement over mains.
- 1365, Going concern in rate cases.

Knoxville v. Knoxville Water Company, 212 U. S. 1, 29 Sup. Ct. 149, January 4, 1909.

- § 1034, Relation of capitalization to fair value.
- 1280, Accrued depreciation.

Lincoln Telephone and Telegraph Company, Re Applica-

tion of, 19 A. T. & T. Co. Com. L. 134, June 26, 1913.

§ 1041, Relation of capitalization to fair value.

1061, Cost of reproduction.

1159, Adequate investment.

1188, Overhead charges.

1234, Working capital.

1314, Functional depreciation.

1321, 1328, Annual depreciation allowance.

1361, Going concern in rate cases.

1403, Franchise value in rate cases.

1441, Return on investment.

Lincoln Telephone and Telegraph Company, Re Application of, to Revise Rates in Beatrice, 22 A. T. & T. Co. Com. L. 898, September 1, 1913.

§ 1188, Overhead charges.

1314, Functional depreciation.

1328, Annual depreciation allowance.

1441, Return on investment.

Lincoln Telephone and Telegraph Company, Re Application of, to Increase Rates at Grafton, 22 A. T. & T. Co. Com. L. 893, September 1, 1913.

§ 1328, Annual depreciation allowance.

1441, Return on investment.

Lincoln Telephone and Telegraph Company, Re Application of, to Increase Rates at Strang, 22 A. T. & T. Co. Com. L. 888, September 1, 1913.

§ 1328, Annual depreciation allowance.

1441, Return on investment.

Louisville and Nashville Railroad Company v. Railroad Commission of Alabama, 196 Fed. 800, April 5, 1912.

§ 1036, Relation of capitalization to fair value.

1060, Cost of reproduction.

1082, 1092, Land.

1172, Unit prices.

1260, Adaptation and solidification.

1322, Annual depreciation allowance.

1401, Franchise value in rate cases.

1434, Return on investment.

Macon Railway and Light Company, Re Application of, 29 A. T. & T. Co. Com. L. 1072, February 24, 1914.

§ 1357, Going concern in rate cases.

1402, Franchise value in rate cases.

Manitowoc Electric Light Company, In Re Valuation of, 28 A. T. & T. Co. Com. L. 679, January 2, 1914.

§ 1311, Functional depreciation.

Metropolitan Street Railway Reorganization, In Re, 3 P. S. C. 1st D. (N. Y.) 113, February 27, 1912.

§ 1191, Overhead charges.

Metropolitan Street Railway Company of Kansas City, Appraisal of, Report of Bion J. Arnold, special commissioner, February 3, 1913.

- § 1026, Fair value for rate purposes.
 1187, Overhead charges.
 1213, Discount on bonds.
 1420, Appraisal of franchise value.
- Meyer et al. v. Sheboygan Gas Light Company**, 9 W. R. C. R. 499, July 11, 1912. Same, on rehearing, 12 W. R. C. R. 309, January 15, 1913.
 § 1237, Working capital.
 1381, Going concern—Wisconsin rule.
- Minnesota Rate Cases**, 230 U. S. 352, 33 Sup. Ct. 729, June 9, 1913.
 § 1010, 1021, Fair value for rate purposes.
 1050, Market value.
 1091, Land.
 1280, Accrued depreciation.
- Missouri Rate Cases**, 230 U. S. 474, 33 Sup. Ct. 975, June 16, 1913.
 § 1005, Purpose of valuation.
 1022, Fair value for rate purposes.
 1052, Market value.
- Montana, Wyoming and Southern Railroad Company v. Board of Railroad Commissioners of Montana**, 198 Fed. 991, March 30, 1912.
 § 1036, Relation of capitalization to fair value.
 1092, Land.
 1180, Overhead charges.
 1210, Discount on bonds.
 1290, Accrued depreciation.
 1351, Going concern in rate cases.
- Montreal Tramways Company, In Re Application for**
- Merger**, Annual Report of the Quebec Public Utilities Commission, 1912, p. 17.
 § 1392, Franchise value in purchase cases.
- Municipal League of Phoenix v. Pacific Gas and Electric Company**, 21 A. T. & T. Co. Com. L. 699, June 23, 1913.
 § 1025, Fair value for rate purposes.
 1083, Land.
 1156, Adequate investment.
 1181, Overhead charges.
 1353, Going concern in rate cases.
 1435, Return on investment.
- National Telephone Co., Ltd., v. His Majesty's Postmaster-General**, 16 A. T. & T. Co. Com. L. 491, January 13, 1913.
 § 1185, 1200, 1201, 1203, Overhead charges.
 1212, Discount on bonds.
 1251, Piecemeal construction.
 1270, Physical depreciation.
 1294, Accrued depreciation.
 1340, Going concern in purchase cases.
 1390, Franchise value in purchase cases.
- Nebraska Telephone and Telegraph Company, Re Application to Revise Rates at Lexington**, 22 A. T. & T. Co. Com. L. 877, August 11, 1913.
 § 1328, Annual depreciation allowance.
 1441, Return on investment.
- New Hampshire Water and Electric Power Company, In the Matter of the Petition of,**

3 N. H. P. S. C. 91, 24 A. T. & T. Co. Com. L. 617, August 1, 1913.

§ 1633, Going concern in rate cases.

New York and North Shore Traction Company, In Re Application of, 3 P. S. C. 1st D. (N. Y.) 63, February 13, 1912.

§ 1074, Actual cost.

1190, Overhead charges.

North Coast Water Company, Application of, to Increase Rates, 3 Cal. R. C. —, 26 A. T. & T. Co. Com. L. 1161, December 3, 1913.

§ 1084, Land.

Northern Michigan Power Company, Application of, to Issue Stocks and Bonds, 19 A. T. & T. Co. Com. L. 244, June 11, 1913.

§ 1095, Land.

1214, Discount on bonds.

1360, Going concern in rate cases.

Omaha, Lincoln and Beatrice Railway Company, Application for Authority to Issue Bonds and Stock, February 25, 1913.

§ 1041, Relation of capitalization to fair value.

Oshkosh Water Works Plant, Re Purchase, 12 W. R. C. R. 601, September 27, 1913.

§ 1118, Pavement over mains.

1135, Property donated.

1196, Overhead charges.

1380, Going concern — Wisconsin rule.

Pacific Telephone and Telegraph Company, In Re Valuation of Exchange Plant in Spokane, 25 A. T. & T. Co. Com. L. 892, November 1, 1913.

§ 1301, Accrued depreciation.

1368, Going concern in rate cases.

Public Service Commission of New Hampshire, Report of, on an Investigation of Railroad Rates, November 30, 1912, 377 pages.

§ 1005, Purpose of valuation.

1051, Market value.

1071, Actual cost.

1142, Invested surplus.

Public Service Gas Company, In Re Rates, 1 N. J. B. P. U. C. 433, 15 A. T. & T. Co. Com. L. 354, December 26, 1912.

§ 1064, Cost of reproduction.

1097, Land.

1113, Pavement over mains.

1189, Overhead charges.

1235, Working capital.

1297, Accrued depreciation.

1330, Annual depreciation allowance.

1364, Going concern in rate cases.

1406, Franchise value in rate cases.

1443, Return on investment.

Public Service Gas Company v. Board of Public Utility Commissioners (N. J.), 85 N. J. —, 87 Atl. 651, July 7, 1913.

§ 1004, Purpose of valuation.

1029, Fair value for rate purposes.

1364, Going concern in rate cases.

§ 1406, Franchise value in rate cases.

Queens Borough Gas and Electric Company, In Re, 2 P. S. C. 1st D. (N. Y.) 544, June 23, 1911.

§ 1161, Adequate investment.
1191, Overhead charges.

Queens County Water Company, People ex rel. v. State Board of Tax Commissioners, 157 App. Div. 165, 142 N. Y. Supp. 180, May 22, 1913.

§ 1116, Pavement over mains.

Rates for Gas in Thirty-first Ward of Brooklyn, In Re, 4 P. S. C. 1st D. (N. Y.) 328, July 8, 1913.

§ 1151, Unused property.

Sacramento Valley and Eastern Railway Company, In the Matter of Ascertaining the Value of the Property of, September 30, 1913, California Railroad Commission.

§ 1003, Purpose of valuation.

San Diego, County of, Re Water Rates and Service in the, 2 Cal. R. C. 464, 18 A. T. & T. Co. Com. L. 1002, March 28, 1913.

§ 1070, Actual cost.

1451, Contracts, water power, and patent rights.

San Diego Water Company v. City of San Diego, 118 Cal. 556, 50 Pac. 633, October 9, 1897.

§ 1037, Relation of capitalization to fair value.

San Joaquin and Kings River Canal and Irrigation Company v. County of Stanislaus, April 27, 1914, United States Supreme Court.

§ 1462, Contracts, water power, and patent rights.

San José v. The Pacific Telephone and Telegraph Company, 3 Cal. R. C. —, 24 A. T. & T. Co. Com. L. 370, October 9, 1913.

§ 1070, Actual cost.

1110, Pavement over mains.

1150, Unused property.

1321, Annual depreciation allowance.

1457, Contracts, water power, and patent rights.

Solari v. Tuolumne County Electric Power and Light Company, 3 Cal. R. C. —, 22 A. T. & T. Co. Com. L. 1045, July 29, 1913.

§ 1154, Unused property.

1313, Functional depreciation.

1324, Annual depreciation reserve.

South and North Alabama Railroad Company v. Railroad Commission of Alabama, Report of W. A. Gunter, Special Master, 1911.

§ 1060, Cost of reproduction.

1092, Land.

1260, Adaptation and solidification.

1334, Annual depreciation allowance.

1400, Franchise value in rate cases.

Southwestern Telegraph and Telephone Company, St.

Louis Public Service Commission, Report on, October 14, 1913.

- § 1072, Actual cost.
- 1089, Land.
- 1300, Accrued depreciation.
- 1367, Going concern in rate cases.
- 1408, Franchise value in rate cases.

Spokane *v.* Northern Pacific Railway Company, 15 I. C. C. R. 376, February 4, 1909.

- § 1035, Relation of capitalization to fair value.

Steenerson *v.* Great Northern Railway Company, 69 Minn. 353, 72 N. W. 713, October 20, 1897.

- § 1039, Relation of capitalization to fair value.
- 1075, Actual cost.

Stockton Terminal and Eastern Railroad Company, In the Matter of Ascertaining the Value of the Property of, within the State of California, 2 Cal. R. C. 777, 19 A. T. & T. Co. Com. L. 208, April 30, 1913.

- § 1003, Purpose of valuation.
- 1093, Land.
- 1131, Property donated.
- 1182, Overhead charges.

Superior Commerical Club *v.* Duluth Street Railway Company, 12 W. R. C. R. 1, November 13, 1912.

- § 1134, Property donated.
- 1302, Accrued depreciation.

Superior Commercial Club *v.* Superior Water, Light and Power Company, 11 W. R.

C. R. 704, November 13, 1912.

- § 1091, Land.
- 1162, Adequate investment.
- 1198, Overhead charges.
- 1216, Discount on bonds.
- 1237, Working capital.
- 1333, Annual depreciation allowance.
- 1382, 1385, Going concern—Wisconsin rule.
- 1445, Return on investment.

Texas and Pacific Railway Company *v.* Railroad Commission of Louisiana, 192 Fed. 280, November 22, 1911.

- § 1036, Relation of capitalization to fair value.

Thompson *v.* Cambridge Water Company, 24 A. T. & T. Co. Com. L. 564, August 27, 1913.

- § 1112, Pavement over mains.

Tonopah and Tidewater Railroad Company, Valuation of, 3 Cal. R. C. —, 22 A. T. & T. Co. Com. L. 1064, July 29, 1913.

- § 1093, Land.
- 1261, Adaptation and solidification.

Union City *v.* Union Heat, Light and Power Company, 5 Rate Research, 69, February 7, 1914.

- § 1111, Pavement over mains.
- 1369, Going concern in rate cases.

United Railways Company of St. Louis, Report on, St. Louis Public Service Commission, November 19, 1912.

- | | |
|---|---|
| <p>§ 1042, Capitalization and fair value.
 1072, Actual cost.
 1282, Accrued depreciation.</p> <p>Wells, Fargo & Company,
 In the Matter of Rates, Decision No. 841, August 1, 1913, California Railroad Commission.</p> <p>§ 1436, Return on investment.</p> <p>Westchester Street Railway Company, In the Matter of the Application of, 3 P. S. C. 2d D. (N. Y.) 286, 7 A. T. & T. Co. Com. L. 81, April 24, 1912.</p> <p>§ 1006, Purpose of valuation.</p> | <p>Westchester Street Railway Company, People ex rel. v. Public Service Commission, 158 App. Div. 251, 143 N. Y. Supp. 148, July 8, 1913.</p> <p>§ 1341, Going concern in purchase cases.</p> <p>1391, Franchise value in purchase cases.</p>
<p>Western of Alabama Railway v. Railroad Commission of Alabama, 197 Fed. 954, May 27, 1912.</p> <p>§ 1092, Land.</p> <p>1230, Working capital.</p> <p>1401, Franchise value in rate cases.</p> <p>1434, Return on investment.</p> |
|---|---|

CHAPTER I

Purpose of Valuation

§ 1001. Different meanings of term "value."

1002. Value dependent on purpose.

1003. California Commission makes no findings of value without reference to purpose.

1004. Distinction between value for rate and purchase purposes.

1005. Distinction between value for tax and rate purposes.

1006. Definition and theory of value—New York Public Service Commission, Second District.

§ 1001. Different meanings of term "value."

As the valuation problem develops it becomes increasingly clear that the term "value" may be used in several different senses, and that what is value for one purpose is not necessarily value for another. The term value may signify: (1) inherent utility, or value in use; (2) cost of production, or normal value; (3) purchasing power, or exchange value. All of these uses of the term are appropriate and justified by common usage. Nevertheless, the use of the term value without adequate qualification or delimitation to mean utility for certain purposes, exchange value for other purposes, and cost or normal value for still other purposes has doubtless added confusion to a subject already distractingly complex. It has doubtless served to confuse the matter in the minds of the courts and commissions themselves. Nevertheless, employment of substitute terms is not without difficulties.

In considering valuation for rate, taxation, and purchase purposes we are chiefly concerned with cost, or normal value, and exchange value. Here we will have little to do with inherent utility, or value in use. From

the necessities of the case our valuation must be expressed not in terms of utility but in terms of money. We are thus limited to cost, or normal value, and to exchange value.

§ 1002. Value dependent on purpose.

But neither the term "exchange value" nor the term "cost of production" can be used regardless of assumed conditions and the particular purpose of the appraisal. Is exchange value the price that can be obtained at any particular moment or is it the price that would be paid under certain assumed conditions of demand and supply? Certain conditions are almost invariably assumed. It is assumed that the price will be paid not at a forced sale but at a voluntary sale between a willing seller and a willing buyer. But the degree of willingness of buyer and seller varies greatly. The estimated sale price may depend very largely on the length of time allowed to secure the most anxious buyer. Cost of production may be based either on actual cost or reproduction cost, or upon a combination of the two. Moreover, both cost and exchange value are sometimes combined in various degrees in forming a judgment as to value for any particular purpose. Certain facts and certain elements of value will doubtless be considered in arriving at a judgment as to value for either tax or rate or purchase purposes. This is particularly true of the important fact of cost of physical property, both actual cost and reproduction cost, but the degree of consideration given to certain facts may vary greatly with the purpose of the valuation, and certain facts and elements may be considered for one purpose and entirely excluded for another.

§ 1003. California Commission makes no findings of value without reference to purpose.

In proceedings under Sections 47 and 70 of the Cali-

for California Public Utilities Act the Railroad Commission has limited its findings to the ascertainment of certain facts that are usually considered in determining the value of railroad property. The Commission has declined to make a finding as to the value of such property, believing that such value can not properly be ascertained without reference to some particular purpose. Section 70 of the Public Utilities Act provides that findings of fact by the Commission shall be admissible in evidence in any future public proceeding. In delivering the opinion of the Commission in the Stockton Terminal case Commissioner Thelen says (at pages 211-212):¹

In making findings in this case, I shall not make a general finding as to the value of the property of this railroad. Value is an elusive term, and what may properly be a value for one purpose may be entirely improper as a value for another purpose. I shall rather find specific facts bearing on the question of value, as shown by the evidence in this case, leaving it to the future to use these facts, or such thereof as may be material, in any proceeding in which these facts may become relevant. The fact that a finding is made on a particular matter is not to be taken as expressing the view of this Commission that that particular matter should enter into a consideration of the value of the property of this railroad company for any particular purpose. For instance, I shall find in this case that it cost a certain amount of money to sell the railroad company's stocks and bonds. In making this finding I shall not pass on the question as to whether this amount was a reasonable amount of money to expend for that purpose or whether this fact should be considered at all in subsequent controversies affecting this railroad as to rates, the issues of securities, or in other matters. I shall content myself with finding the facts with reference to different elements which, properly or improperly, have from

¹ In the Matter of ascertaining the value of the property of the Stockton Terminal and Eastern Railroad Company within the State of California, 19 A. T. & T. Co. Com. L. 208, April 30, 1913.

time to time been considered by the courts in cases in which the value of the property of a railroad company has been material.

In making the findings of fact in this case, I shall consider the following matters:

1. Organization, construction, and operation.
2. Stocks and bonds.
3. Revenues and expenses.
4. Original cost, as defined.
5. Reproduction value, as defined.
6. Present value, as defined.

The Commission also had in mind the unsettled condition of the law as to what constitutes fair value for rate purposes. This is brought out in Commissioner Thelen's paper before the National Association of Railway Commissioners, October 30, 1913, in which he considers particularly the question of appreciation in railway land values and holds that it is inequitable to include such appreciation in a valuation for rate purposes. In order better to hold this question open pending a final decision by the Supreme Court of the United States he recommends that state commissions making physical valuations should confine themselves to findings on questions of fact, and refrain wherever possible from finding as to the ultimate question of value. He says (at pages 279-280):²

That value may be one sum for one purpose and another sum for another purpose. The correct value depends fundamentally both on the purpose for which it is to be ascertained and on the correct principles to be adopted in ascertaining it. Until the Supreme Court of the United States has clearly and unequivocally established the principle which it considers correct after its attention has been squarely drawn to the tremendous importance of the question of appreciation in value, I believe it would be far wiser for the commissions to adopt the

² National Association of Railway Commissioners, *Proceedings*, 1913.

policy which the California Commission is at the present time pursuing. Whenever the correct principle is definitely established, it will be possible to refer to the findings of the commissions on the various branches of the question and from these findings to determine the ultimate fact of the value which is to be assigned to the property for rate-making purposes. By exercising care with reference to these facts, and distinguishing clearly between a fact and a conclusion therefrom, the commissions will avoid the danger of putting themselves in a position from which they can not withdraw and of adopting theories and making findings which will later come back to plague them.

As in other proceedings under these sections the Commission is careful to define the terms "original book cost," "reproduction value" and "present value." In the matter of ascertaining the value of the property of the Sacramento Valley and Eastern Railway Company, decided September 30, 1913, these terms are defined by the California Commission as follows:

At the outset I desire to define certain terms which will be used herein.

The term "original book cost," as used in this opinion, means the actual expenditure chargeable to capital account in accordance with the classification of expenditures for road and equipment, as prescribed by the Interstate Commerce Commission for steam roads, made by the railway company for its operative property as of June 30, 1912.

The term "reproduction value," as used in this opinion, means the estimated cost in cash of acquiring the operative right of way and other real estate and of repurchasing (reproducing) in the condition in which it was acquired the other physical property of the railway company, as of June 30, 1912, to which are added overhead expenditures for engineering, law, interest and commissions, and similar items.

The term "present value," as used in this opinion, means the "reproduction value" less the diminution in value of the physical elements of the property, due to use, age, obsolescence,

inadequacy, and other causes, plus appreciation where found. This might properly be called "depreciated reproduction value," and does not mean the ultimate fact of present value as that term is ordinarily used.

§ 1004. Distinction between value for rate and purchase purposes.

A distinction between value for rate and purchase purposes is brought out in the following decisions of the New York Public Service Commission for the Second District and the Supreme Court of New Jersey:

*Fuhrmann v. Cataract Power and Conduit Company*³ is a case involving the valuation of property of an electric company for rate purposes. Chairman Stevens in delivering the opinion of the Commission in this case discusses at considerable length the distinction between a valuation for rate purposes and valuation for purchase purposes. He states that value in purchase cases is determined primarily by earning power present and prospective. In a purchase case the inquiry relates to earning power or what can be got out of the property, while in a rate case the question relates to what has been put into the property. The question is discussed in this case with reference to its bearing on the proper treatment of going value in a rate case. Commissioner Stevens says (at pages 691-692):

In purchase cases, the point to be determined is how much should be parted with by the purchaser for the purpose of acquiring the entire property, including the business attached thereto. The inquiry is as to the exchange value of the property; that is, the sum or amount which should be parted with by the purchaser in order to acquire that which he desires. The exchange value is, in case of a property whose function is simply

³ 3 P. S. C. 2d D. (N. Y.) 656, 18 A. T. & T. Co. Com. L. 1015, April 2, 1913.

to earn money, determined primarily by the earning power; not alone the earning power at the moment, but the earning power at the moment plus prospective earning power over a period of years. . . . In purchase cases the inquiry is, what is the exchange value of the plant? What is its earning power, present and prospective? And upon the amount of that earning power depends the determination in the case.

In rate cases, the question in determining the value is not how much has been or can be got out of the property, but how much has been put into it, in order that from that fact it may be determined how much may be reasonably taken out of it in the way of net income. The cause of complaint in a rate case, and hence the point in issue, is whether too much return has been obtained from the public, and whether that return ought not to be cut down to a smaller sum: whether the net income is not too large and should not be smaller. In such a case the earning power of the plant is uncertain until the decision as to the rate is made, because that is the very thing the controversy is about. It follows that in a rate case the earning power can not be considered in determining what is the value of the property for the reason that such value depends upon the earning power and the earning power depends again upon the rate, and the rate depends upon the decision which may be made in the case.

In *Public Service Gas Company v. Board of Public Utility Commissioners*⁴ the Supreme Court of New Jersey upheld an order of the Board of Public Utility Commissioners reducing the rates of the Public Service Gas Company. In discussing the allowance for going value Judge Swayze notes the distinction between valuation for rate and purchase purposes. He says (at page 658):

" We think that if by value we mean what the economists call exchange value, then a buyer would undoubtedly give more for a plant already doing a profitable business than for a plant of equal cost, capacity, and future possibilities, but without the established business. To a purchaser the assurance of an im-

⁴ 85 N. J. —, 87 Atl. 651, July 7, 1913.

mediate return is worth paying for, and we see no reason to doubt the correctness of the ruling of the United States Supreme Court in *Omaha v. Omaha Water Co.*, 218 U. S. 180, 30 Sup. Ct. 615, 54 L. Ed. 991. We agree with the view expressed for that court by Mr. Justice Lurton "that the difference between a dead plant and a live one is a real value, and is independent of any franchise to go on, or any mere good will as between such a plant and its customers." It is true that that was a condemnation case and not a rate case, and involved, therefore, a question of exchange value, and not the question of a fair and reasonable valuation as between a public service company and the public. The two bases of valuation may properly be different, since upon a sale or condemnation the probability of an assured income and a continuance of the existing rates enters into and affects the exchange value; while in the case of a valuation for the purpose of fixing a rate, the question is what valuation and rate will tempt the investment of capital, and to what extent existing rates may with justice be lowered. //

§ 1005. Distinction between value for tax and rate purposes.

The following decisions of the United States Supreme Court, the New Hampshire Public Service Commission and the Wisconsin Railroad Commission support the now generally accepted rule that assessment for tax purposes is not necessarily evidence of value for rate purposes (see § 7). On the other hand, certain rulings of the Federal Court and of the Maryland Public Service Commission in regard to the value of franchises seem to point toward the opposite rule (see §§ 1400, 1404).

In the *Missouri Rate Cases*,⁵ the United States Supreme Court holds that valuation for purposes of taxation is not necessarily evidence of value for rate purposes. In order that value for tax purposes may be used as evidence of value for rate purposes, it is necessary that the methods of appraisement used in determining tax value shall be

⁵ 230 U. S. 474, 33 Sup. Ct. 975, June 16, 1913.

clearly shown. In the Missouri Rate Cases the chief evidence of value introduced was value as determined by the State Assessing Board for tax purposes. Justice Hughes in delivering the opinion of the court discusses this question as follows (at pages 497-498):

The findings of value made by the court below, in the case of seven of the nine companies, were the same as the valuations placed respectively upon the properties by the state assessing board, for the purpose of taxation, multiplied by three. The multiplication was made because the assessments were on the basis of one-third of the value in the judgment of the state board. In the case of two of the companies, the St. Louis & Hannibal and the Kansas City, Clinton & Springfield, the value as found was equal to twice the assessed valuation, that is, the value was taken to be two-thirds of the estimate of the assessing board.

None of the members of the state assessing board was examined. There is no satisfactory proof of the grounds of their judgment. Nor was it shown that these valuations, made by them for the purposes of taxation, were upon a basis which could properly be taken in determining the fair value, where the sufficiency of prescribed rates is involved and the issue is one of confiscation.

Justice Hughes concludes that "It can not be regarded as sufficient to introduce assessments, or valuations made for the purposes of taxation; and this is particularly true when the principles governing the assessments are not properly shown, and for all that appears, they may have rested upon methods of appraisement which would be inadmissible in ascertaining the reasonable value of the property as a basis for charges to the public."

The New Hampshire Public Service Commission in its report on an investigation of railroad rates⁶ states that

⁶ Report of Public Service Commission of New Hampshire on an Investigation of Railroad Rates, November 30, 1912, 377 pages.

an assessment for tax purposes is not necessarily evidence of value for rate purposes. The Commission states that this is particularly true if under the state law the value of the franchise is included in the assessment for tax purposes. The Commission says (at page 317):

While counsel for the railroad urged that the Commission should accept this valuation as the value of said railroad properties for rate purposes, we do not feel that the same should be so accepted unless supported by other satisfactory evidence, for the reason that, in making assessments for purposes of taxation, elements may properly be taken into consideration which are entitled to no weight in fixing a valuation for rate purposes. For example, under the decision of the Supreme Court of New Hampshire, in the case of *Fitchburg Railroad v. Prescott*, 47 N. H. Reports, 67, it is held that the franchise of a corporation should be included in an assessment for the purposes of taxation. A franchise is a grant from the public, and it would seem clear that it ought not to be made the basis of charges against the public. When the people of the state granted to a body of men the right to build a railroad between any two points in New Hampshire, and those men invested their money in the construction of a road under their charter and in the purchase of rolling stock for the operation of the same, they became entitled to collect from the people of the state in rates a fair return upon the money invested by them in the enterprise; but they did not, in addition to such fair return, become entitled to collect from the people an additional sum figured as a return upon the value of the privilege which had been granted to them without cost.

In *City of Milwaukee v. The Milwaukee Electric Railway and Light Company*⁷ the Wisconsin Railroad Commission says (at pages 63-64) that: "The appraised value for purposes of taxation may lead to similar erroneous conclusions. Such values are frequently based upon net earnings or the ability of the company to carry a portion

⁷ 11 W. R. C. R. 1, 14 A. T. & T. Co. Com. L. 197, August 23, 1912.

of the general burden of taxation and involve a capitalization of net profits even though such profits arise from excessive rates.”

§ 1006. Definition and theory of value—New York Public Service Commission, Second District.

In delivering the majority opinion of the New York Public Service Commission, Second District, In the Matter of the Application of the Westchester Street Railway Company ⁸ Chairman Stevens discusses at length the meaning of the term “value” with reference to the purposes of taxation, rate fixing, and capitalization. The case at hand is a capitalization case, but Chairman Stevens apparently feels that the term “value” should have the same significance regardless of purpose. After quoting at length from various state and United States court decisions in taxation and rate cases, Mr. Stevens concludes that the courts have not laid down any definition of value that would establish a rule for either tax, rate or capitalization purposes. He says (at page 316):

It will not be found useful further to prolong quotations upon this subject. There is not to my knowledge, in any reported opinion, a thorough discussion of what constitutes value. Since the decision of *Smyth v. Ames*, the courts have found it easy to resort to the sweeping general language used in that case as a rule for ascertaining value, when in fact no rule is given unless saying that everything may be considered without any intimation as to the relative weight and importance of different factors constitutes a rule. Simply naming a large number of unrelated particulars, or of inconsistent particulars, is not and can not be an aid in the weighing of those particulars. Thus, the original cost of construction, and the present as compared with the original cost of construction, are both named as elements for consideration, with the remark, “and are to be given such

⁸ 3 P. S. C. 2d D. (N. Y.) 286, 7 A. T. & T. Co. Com. L. 81, April 24, 1912.

weight as may be just and right in each case." As to what may be just and right in a given case is just the thing which we are in search of. The courts, in every instance, carefully refrain from indicating it. The same caution upon the part of the courts is manifested in the taxation cases.

Mr. Stevens then attempts to consider the subject from a purely economic and practical standpoint and comes to the conclusion that the term "value" with reference to the purposes of taxation, rates or capitalization must mean value in exchange. He also concludes that, generally speaking, value in exchange must depend on earning power direct or indirect. From his extended discussion of the question the following extracts are taken (at pages 317-318, 320-323, 327):

The different senses attributable to the word "value" do not seem to have been carefully discriminated, with the result that one court apparently speaks of one thing while another has in mind something materially different. It is essential at the outset of any discussion of the subject to ascertain and define with accuracy just what is the exact signification of the term "value." Unless we know precisely what we are to seek, the method of seeking will most likely be defective.

There can be no question that "value," with reference to the purposes of taxation, fixing of rates, and capitalization, means value in exchange. This was clearly brought out by Adam Smith nearly a century and a half since, and has remained a recognized truth with all economists since his day. John Stuart Mill, in his *Political Economy*, makes the clear-cut statement: "Value, when used without an adjunct, always means, in political economy, value in exchange or exchange value. . . ."

We may say that value is nothing intrinsic in things, but simply the temporary measure of the general average desire for them at the moment. It is subjective, inherent in the mind which conceives it and not in the object of which it is conceived. The qualities of an object make it an object of desirability to those who have it not and who can not acquire it without parting with

something which they have in exchange therefor. The terms on which the exchange is made constitute the ratio of exchange. This ratio is ultimately fixed by demand, and demand is determined by the intensity of desire.

These statements of well settled economic truths are dwelt upon for the purpose of bringing out clearly the fundamental truth that when we inquire concerning the value of a thing in the sense of that term with which we are concerned, our inquiries do not primarily relate to the thing itself or its properties or qualities, but should be directed to the strength of the desire which others than the owner may have for its possession, and which desire is ready to manifest itself in parting with money or other things in order to obtain the coveted thing. The properties or qualities of the thing may, and in most cases undoubtedly should, be taken into consideration in estimating the probable intensity of desire for its possession. They are or may be evidence throwing light upon the subject under investigation, but they are not the thing sought. If a promoter were to ask to capitalize the air in his electric generating station on the ground of its great and indispensable value in connection with the operation of the plant, the fact upon which he relied would have to be conceded. . . .

An inquiry into the value of a railroad property as a whole is an investigation of the question how much will any person or collection of persons desire to possess the property, and how much of money or other things will they be willing to part with for the sake of such possession. The difficulty attending the investigation is: (1) the property has never been, we will assume, bought or sold, so that there is no direct test or evidence of its ratio of exchange for money or other things; (2) it is not one of a class of things which are bought or sold with such frequency or under such circumstances as to afford a fair test of what it would be likely to bring upon exchange or sale.

In short, no direct evidence is obtainable concerning its probable ratio of exchange. The only course open to the investigator is to select those qualities or attributes which in his judgment would create a desire for the property, and then estimate how much that desire would induce a prospective pur-

chaser to surrender for its satisfaction. Different standards for judging of value in this way have been used for the reason that men differ as to what would create the desire for possession and as to its strength measured by desire for other things. . . .

Analyze every possible case, and in every one it will be found that an intending purchaser is influenced solely by the desire of gain. No one wants a railroad or any interest in it for any other purpose. In some form or other the impelling motive for the purchase is to get money either by selling again at a profit or by dividends or interest, with a belief that a sale can be made at as much or less than the purchase price. These are truisms, but they need statement in order to bring out clearly the fundamental truth that in seeking to ascertain the value of a railroad property we must inquire into what power it possesses, or is believed to possess, to give gain to a purchaser. It is not a thing which one desires to have for its own sake, like a work of art. It is without any attraction in itself. Its one characteristic which gives it value is its supposed power to yield, directly or indirectly, a money return equal to the investment with a profit thereon. Its value lies, not in what it is, but in what it will produce or what is believed it will produce in money. This is the essential proposition upon which all depends.

Generally speaking, what it will produce in money depends upon its earning power, direct or indirect. To the ordinary investor it is its direct earning power as shown by the excess of its revenues over its expenses. To another road it may be indirect by furnishing business upon which a profit can be made, or by the suppression of a destructive competition. To the speculator, or, perhaps, more accurately, stock gambler, results in many cases are not to any appreciable extent dependent upon the road itself, or its earnings, but upon other conditions which may not be analyzed here even if it were possible. . . .

It is unnecessary to pursue this discussion further. In cases where the sole attraction of a property which gives it exchange value, or, in other words, creates a desire for its ownership, is pecuniary gain, the measure of the desire and hence of the ratio of exchange is clearly the amount of gain which it is believed can be realized. This fundamental consideration indicates that

the net earnings rule of valuation, when properly and carefully applied with due regard to all the features of the individual case, is probably the one having the surest support of basic principle. It is also the one which accords with the practice of shrewd, broadminded, successful men of business.

Commissioner Sague dissented from the above opinion on the ground that the most important basis for capitalization is not value in exchange, but "the money which has been skilfully and economically invested in the property." Commissioner Sague says (at pages 342-343):

I disagree with the theory as developed in this case, and believe that too much stress is placed upon the element of earning power and too little on the other items which determine value. The main object of supervision of capitalization by the Commission, as I understand it, is to determine a basis for calculating the fairness of rates and the adequacy of service. It is not primarily necessary for the Commission to fix the value of a property to the investor, or to arrive at a conclusion as to what a business man would consider a fair purchase price. The duty of the Commission is to approve of an amount of capital which can be used in making up an honest balance sheet which can be applied later, either by the Commission or the public, as a basis for determining whether a corporation is giving its customers fair treatment.

The most important basis for capitalization would appear to be the money which has been skilfully and economically invested in the property. That this was the view of the Supreme Court in the *Smyth v. Ames* case, quoted by the Chairman, is indicated by the court's opinion which places "the original cost of construction" and "the amount expended in permanent improvements" first in the list of elements to be considered as determining the value upon which the reasonableness of rates is to be based.

One of the main elements of earning power must be the rate which a corporation is permitted to charge. Using earning power as a basis for capitalization and later using the capital-

ization as a basis for fixing rates would involve reasoning in a circle.

In some cases the earning power test might indicate a higher capitalization than the original or reproductive cost would justify, and thus be equivalent to the capitalization of the franchise under which high earnings are obtained.

The above is a capitalization case, but the majority opinion specifically states that "there can be no question that value with reference to the purposes of taxation, fixing of rates and capitalization means value in exchange." The inference that the same rule would apply to a rate case is, however, refuted in the case of *Fuhrmann v. Cataract Power and Conduit Company*,⁹ decided April 2, 1913. In this case the opinion is also by Chairman Stevens, who, after discussing the term "value" and quoting from the decision in the *Westchester* case, says (at pages 680-681):

The foregoing language was used in a capitalization case, where the exchange value was directly in question and the matter to be ascertained by the investigation in hand. The present case, however, is a rate case. In a rate case, the exchange value can not logically be a basis of inquiry for the reason that the exchange value depends upon the net income, present and prospective; and the net income depends upon three principal factors, one of which is the rate, the others being amount of service sold and cost of operation. A reduction of rate which does not increase the demand for service necessarily diminishes the net income, and hence by so much diminishes the exchange value of the property employed in the service. If the reduction of rate increases the demand for service, such reduction may increase the exchange value, provided the increase in service be sufficiently great and without increase in operating expenses sufficient to absorb the increased earnings.

Exchange value being dependent upon the rate, it is clear that such exchange value is not the subject of inquiry in a rate

⁹ 3 P. S. C. 2d D. (N. Y.) 656, 18 A. T. & T. Co. Com. L. 1015.

case. To base the rate upon the exchange value would be generally merely to continue the rate, and it would absolutely continue it so far as the value is dependent upon the rate. If the change in rate affects the net income, it changes the exchange value; and if there be no change in exchange value there can be no change in rate.

CHAPTER II

Fair Value for Rate Purposes

- § 1010. No authoritative standard of fair value.
- 1011. Need for some standard of value.
- 1012. Reasonable rate of charge and cost of production.
- 1013. Actual cost and reproduction cost as factors in determining cost of production.
- 1014. Actual cost the normal standard.
- 1015. Theory and limitations of the reproduction standard.
- 1016. Definition of actual cost and method of its determination.
- 1017. Standard of value as affected by past conditions and vested rights.
- 1018. Normal actual cost should at least be adopted for the future.

DECISIONS RELATIVE TO FAIR VALUE

- 1019. United States Supreme Court, 1896.
- 1020. Justice Brewer in *Cotting v. Kansas City Stock Yards Company*, 1901—Value of service to consumer.
- 1021. United States Supreme Court in Minnesota Rate Cases.
- 1022. United States Supreme Court—Proof of confiscation.
- 1023. Senate Committee on Interstate Commerce in reporting railroad valuation bill.
- 1024. Committee on Valuation of National Association of Railway Commissioners.
- 1025. Arizona Commission.
- 1026. Kansas City street railway appraisal.
- 1027. Nevada Commission—Value of service to consumer.
- 1028. New Jersey Commission.
- 1029. New Jersey Supreme Court—Value to individual consumer.
- 1030. New York Commission, Second District.
- 1031. Wisconsin Commission.
- 1032. Wisconsin Commission—Allowance for economical management.

RELATION OF CAPITALIZATION TO FAIR VALUE

- 1033. Capitalization has no necessary relation to fair value.
- 1034. United States Supreme Court, 1909.
- 1035. Interstate Commerce Commission, 1909.
- 1036. Federal Courts.
- 1037. California Supreme Court, 1897.

§ 1038. Maryland Commission.

1039. Minnesota Supreme Court, 1897.

1040. New York Commission, Second District.

1041. Nebraska Commission.

1042. St. Louis Commission.

1043. Wisconsin Commission.

§ 1010. No authoritative standard of fair value.

Little progress has been made toward a definition of "fair value for rate purposes." Some authorities state that the term is not subject to definition, if by definition is meant the laying down of a standard or rule or formula by which fair value can be determined. Each case must be considered on its own merits, and such result or value arrived at "as may be just and right in each case." "It is not a matter of formulas, but there must be a reasonable judgment having its basis in a proper consideration of all relevant facts."¹ "We take it that any value is a fair value which fair and reasonable men would say ought to be attached to the property, under all the circumstances of the particular case, for the purpose of measuring the return which the public should pay to the owner."² Fair value "is a determination of what under all the facts and circumstances of the case is a just and equitable amount on which the return allowed to the corporation is to be computed."³

Prior to about 1912 there were many cases in which the courts and commissions, while nominally at least considering various elements of value, as a matter of fact apparently made cost-of-reproduction-less-depreciation the controlling factor. In recent years there has been a tendency to modify the reproduction method so as to

¹ The Minnesota Rate Cases, 230 U. S. 352, 33 Sup. Ct. 729, June 9, 1913.

² Application for approval of sale of Berlin Electric Light Company, 3 N. H. P. S. C. 174, 21 A. T. & T. Co. Com. L. 781, August 20, 1913.

³ Buffalo Gas Company v. City of Buffalo, 3 P. S. C. 2d D. (N. Y.) 553, 23 A. T. & T. Co. Com. L. 244, February 4, 1913.

bring it nearer to actual cost and to emphasize the importance of the actual necessary cost as a factor in determining value. Certain decisions go so far as to make the actual and necessary cost the most important if not the controlling factor in determining fair value.

§ 1011. Need for some standard of value.

Those who realize the complexity of the problem are agreed that it is fortunate that the courts, and particularly the United States Supreme Court, has not attempted as yet a more illuminating definition of "fair value." It is recognized that the entire problem is in a developmental stage and that there is danger of creating precedents that may compromise future action when the entire problem has been more fully disclosed.

This attitude, however, while proper under the circumstances, should not be considered final. While fair value can never be a matter of mathematical formula, its normal content should be defined. Public interest demands that the relation between the public utility and the public should be put on a more permanent and dependable basis.

Investors in putting their money into public utility enterprises are entitled to know whether, in case the utility is appropriately located and normally successful, it will be permitted to earn a return on the actual and necessary investment or upon the cost of reproduction or upon the market or exchange value of the property, or upon a combination of these or other factors. Any arrangement might conceivably be fair to the company and fair to the public provided it were known in advance, so that reciprocal relations between risks involved and returns secured might be established and proper methods of accounting for depreciation and appreciation instituted. For the future at least it is clearly essential that some one

standard should be adopted as the normal and controlling standard in determining fair value. As to the past, the situation while more complicated still points to the desirability of definitely choosing some standard.

Most of the objections to the adoption of *any* standard of value arise from a consideration of the numerous difficulties and complexities created by the case of poorly located and unsuccessful enterprises. It is apparent that in such cases rates must be fixed without much regard to cost of production. Rates in such cases must be largely based on a fair judgment of the value of the service to the consumer. In such cases the existing property has little or nothing to do with the estimate. The entire problem is approached from the standpoint of what is fair to the consumer. It is recognized that a rate which would fairly compensate the company from the standpoint of its outlay is improper as such rate would be higher than the consumer could justly be called upon to pay. Such cases are not, properly speaking, cases for valuation at all. They are cases in which the rates must be determined largely without regard to what is normally meant by value for rate purposes. It is true that no standard of rate making can be adopted for such cases. The usual procedure is to determine actual cost, reproduction cost, accrued depreciation, capitalization and perhaps other factors, and then to fix an amount as fair value which at the rate of return determined upon will permit of the rate of charge which seems to correspond to the fair value of the service. The reasoning here is somewhat circular. The fair rate of charge must be first determined and then a fair value and fair rate of return that will seem to justify the rate of charge already determined upon. In considering a normal standard of fair value for rate purposes the abnormal case of the poorly located, unsuccessful, or partially obsolete enterprise should be excluded. Such ab-

normal enterprises must necessarily be put in a class by themselves in considering rate and valuation problems.

If the discussion is limited to the normally located and successful enterprise, it is believed that a controlling standard for the determination of fair value can and should be developed. It is essential that the relations between the company and the public be put on a more permanent and dependable basis. In justice both to the company and to the public the determination of this important matter should not be left wholly to the judgment or predilection of the court in each particular case. Most judges and individuals as well, whether consciously or not, use some standard as actually controlling. They may test their judgment of reproduction cost by actual cost or they may test their judgment as to normal actual cost by reproduction cost, but in either event it is one or the other of these standards that is actually controlling.

The determination of a standard of value applicable to existing investments will be worked out, if at all, by the slow and piecemeal process of court decision in numerous cases. The final answer can only be given by the Supreme Court of the United States. It would seem, however, that as to the future legislative bodies and commissions might at once adopt a standard. This standard would apply to future investments and to future fluctuations in existing investments.

§ 1012. Reasonable rate of charge and cost of production.

In considering fair value for rate purposes, it is important to bear in mind that the determination of fair value is a part of the process of determining a reasonable rate of charge. The content of fair value may therefore depend largely on our conception of what constitutes rate reasonableness. It will aid to a clearer determination of

this intricate problem if for the moment we forget "fair value" and concentrate our attention on the fundamentals of a reasonable rate of charge. By "reasonable rate" as here used we mean the reasonableness of the rate schedule as a whole and not the adjustment of the various specific rates that go to make up the complete rate schedule. It is the total price or compensation collected from the public for its entire service rather than the price for any particular service or class of services. A reasonable rate of charge in this sense of a reasonable rate schedule is a rate that gives the company reasonable compensation for the entire service which it renders the public.

Reasonable compensation must be reasonable to the public. It can not be more than the service is fairly worth to the users or more than they can be justly called upon to pay under all the circumstances of the case. Reasonable compensation should, moreover, constitute a fair return to the company for the service rendered. It must be just to the public and should be just to the company, but if it can not be just to both it must in any event be just to the public. Normally there is no conflict, for a rate that is just to the company is also just to the public. It is for the most part only in cases where there has been poor judgment in the establishment of an enterprise, or changed conditions have rendered it inappropriate, that a rate which offers only a fair compensation to the company is unjust to the public. For the normal successful public utility enterprise the reasonable rate of charge is the rate that affords the company a reasonable and no more than reasonable compensation for its entire service to the public.

What then is reasonable compensation in the case of the appropriate and normally successful public utility enterprises? Reasonable compensation is here equivalent to the normal cost of production. What other basis can

there be for the determination of a fair price in the case of a virtual monopoly?

If a commodity can be freely and quickly produced, its market price will follow quite closely its cost of production. This must be so because under the assumed conditions there could be no reason for paying more than the cost of production.

If a commodity may be freely produced, but only by specially trained workmen, a large fixed investment, and great business risks, the cost of production will still in the long run *tend* to limit market price. It is clear that the production of a particular commodity will not be permanently carried on unless the price received covers all the costs of production. Under free competition it is also clear that a price higher than that necessary to cover special risk, interest, profits, and operating expenses will bring new capital into the industry and thus bring the price down to the cost of production. For a freely produced commodity, therefore, a price that does not conform to cost of production is not a stable or normal price. In a static society with perfectly free competition the market price would conform to cost of production. In our present highly dynamic society with many actual limitations upon perfect freedom of competition market price and cost of production are often very far apart. Economists have used the term normal price to indicate in the case of a freely produced commodity that price that corresponds to cost of production. It is the normal price because it is the price toward which market prices tend; it is the price that under assumed conditions would be stable.

The above presupposes competitive conditions. In the case of unregulated virtual monopoly the force that tends to limit prices charged to the cost of production is lacking. This creates the necessity for public regulation

of the rates of charge of public service companies. The aim of public regulation is to accomplish what in other industries is assumed to be accomplished automatically by free competition; that is, to limit the price charged to the normal cost of production. In the case of authorized and regulated monopoly, ordinarily the reasonable rate of charge will correspond exactly to the economist's conception of normal price. The reasonable rate is ordinarily the one fixed by the normal cost of production. It is fixed by normal operating expenses plus a normal rate of return on a normal capital cost. Normal cost is ordinarily the determining factor in fixing fair, reasonable or normal prices in the case of a regulated monopoly.

There is no reason why in the case of a virtual monopoly the public should be required to pay more than the normal cost of production, and sound reason why in the long run the public can not pay less. Normal cost of production is the amount which in the long run it is necessary to pay to secure the utilities demanded by the public. It is the amount that will secure an equilibrium between demand and supply.

§ 1013. Actual cost and reproduction cost as factors in determining cost of production.

In the case of a commodity requiring no capital outlay the normal cost of production is easily determined. It is the present normal cost of the labor and materials entering into its production. Cost consists merely of "operating expenses" and is not complicated by the question of capital cost and interest and profits thereon.

In the case, however, of a commodity requiring a large fixed investment, the determination of a normal cost of production is a complex process, in the working out of which there is room for a wide divergence of opinion. To

the normal cost of labor and materials there must be added a fair estimate for depreciation and a fair return on capital cost. The normal cost of labor and materials is complicated by the necessity of including provision for maintenance, repairs, and depreciation. The determination of a normal return on a normal capital cost requires a determination of two very difficult and complicated problems: (1) what is the amount of the normal capital cost, and (2) what constitutes a normal return on such amount.

Normal capital cost as applied to a new enterprise is a comparatively simple concept. But what is it as applied to a long-established enterprise—to a water-supply plant, a gas plant or a railroad system? Is it normal cost at the time originally installed or last renewed, or, on the other hand, is it the present cost of reproduction? Is it actual cost or reproduction cost? We start with the premise that the reasonable rate of charge is to be determined by the fair cost of production. The point at issue between actual cost and reproduction cost is really whether by cost of production we mean cost at a particular moment or cost averaged over a period of years. In favor of present-moment-cost it is asserted that what the public is entitled to is service at a rate of charge sufficient only to pay a return fair under present investment conditions upon the capital cost that would be required at present to furnish this service; and conversely what the company is entitled to receive is a fair return under present investment conditions on the capital cost that it or another company would have to expend at present in order to provide the service. A rate of charge measured on this basis is said to correspond to the present economic cost of the service.

The fallacy in this argument is due to a failure to realize the effect on cost determination of a fixed investment of

capital. If a public service could be supplied without a fixed investment, it would be true that cost of production could be determined without reference to the past. But these utilities can not be supplied without a large capital outlay that can not be withdrawn at will and upon which a certain risk has been assumed in anticipation of an assumed probable return. As the utility can be supplied only in this way, the actual cost of production can not be determined without reference to these actual conditions. Cost of production determined by the reproduction method is largely hypothetical. It is not based on the actual conditions that limit the production of the utility.

Take the railroad industry. Some billions of dollars have been permanently devoted to this great public service. This capital can not be withdrawn. The railroad is a fixture. It has created and molded the entire industrial and social development. The location of industries, population, cities, has for the most part been controlled by this factor. It is utterly impossible to conceive of our present social and industrial organization without the railroad. The reproduction-cost theory as applied to such an institution is particularly fanciful. How can real cost of transportation be held to change from year to year with the changing reproduction cost of the railroad right of way and terminals? If railroads were in fact entirely reconstructed each year, there would be reason in this method of cost determination. But they are not and can not be constructed and operated on any such theory. The real cost of transportation can only be determined by recognizing the only process by which transportation service can be supplied; that is, by devoting capital permanently to the enterprise.

§ 1014. Actual cost the normal standard.

The determination of a normal capital cost is one step

in the process of determining a normal price, and this normal price is the amount which in the long run it is necessary to pay to secure the utilities demanded by the public. It is the amount which constitutes an adequate inducement for investment. Starting with the necessary investment as a base, the investor will estimate all the risks and hazards of the business of every kind and nature, and against this will place all the possible chances of profit. The possible rate of return adequate to induce investment is naturally and necessarily a percentage on the actual cost. From the standpoint of the investor, a rate of profit based on any amount that is less than the actual cost is in excess of the actual rate of profit, and a rate of profit based on any amount that is greater than the actual cost is less than the actual rate of profit.

Assume, for example, that a possible annual return of 7 per cent on the actual outlay is reasonable and necessary to secure the establishment of a given public utility. If, however, the annual return is to be based not on actual outlay but on estimated reproduction cost in each year, 7 per cent will be more or less than a reasonable return in proportion as the chances favor an increase or a decrease in reproduction cost. If costs of land, labor and materials are advancing and all indications point to a continuance of such increase, a return of 7 per cent on such increasing cost is more than is reasonable and necessary to secure the establishment of the given enterprise. If, on the other hand, all indications point to a continuous fall in the cost of land, labor and materials, the prospect of a return of 7 per cent on such decreasing cost would not be adequate to secure the establishment of the enterprise. To furnish an adequate inducement, either the probable rate of return would have to be increased or the cost of reproduction standard of determining capital cost would have to be abandoned.

The fair rate of return could be altered so as in a measure to offset the appreciation or depreciation of the base to which such rate of return is applied. With declining prices the risk of depreciation in reproduction cost would be offset by an increase in rate of return and with advancing prices the probability of appreciation would be offset by a decrease in the rate of return. This, however, is but a poor method of accomplishing what can be more fairly and logically effected by directly basing the rate of return on actual capital cost. Any method that is permanently fair to both parties must get back to actual capital cost as the base for actual as distinct from nominal profits.

It is a fair assumption that in general investors in establishing public utilities have looked to a fair return on their actual investment to compensate them for their outlay, and have not taken seriously into account any appreciation or depreciation in the value of land or in the price of labor and materials entering into the reproduction cost of structures and equipment. They have necessarily assumed that they would be able and would be permitted to receive for their service an amount equal to their actual cost of production, *i. e.*, operating expenses, depreciation and interest and profits on their actual capital outlay.

The normal actual capital cost as a basis for rate determination, moreover, has a distinct advantage from the standpoint of public policy. It is desirable that rate schedules should have stability and should not fluctuate with the price of iron pipe or copper wire or with real estate activity or reactions. A utility is not established for the purpose of speculating in copper wire or iron pipe or land. It must, however, in furnishing its service invest its money permanently in these things. The utility should not be expected to assume the risks of fluctuations in the price of the land and materials it uses. The public interest

is best subserved and the cost of production is lowered by reducing the risks incident to public utility enterprises. The tendency of modern public service regulation is to establish more definite and equitable relations between the public and the company. These more definite relations mean decreased risk and decreased risk means decreased cost of production.

The public utility renders a continuous service and in doing so requires a permanent fixed capital. Both the plant and the business are a gradual growth. This essential continuity of growth and service is the fact that seems to be lost sight of in present moment reproduction methods of determining cost of production. The service and its present cost are the result of a complex interplay of factors starting with the initiation of the enterprise. Such cost is as much the result of past life and growth as it is of present conditions. Investment, depreciation, operating costs, risk, are all bound up in the past growth and development of the existing utility.

Though it be admitted that ordinary fluctuations in the price of land, labor and materials should not be reflected in the rate of charge, it may still be argued that general movements in the level of prices caused by a change in the value of money should be so reflected. If the value of gold is declining, there is necessarily an increase in the value of all other commodities measured on a gold basis. A *general* rise in prices means a depreciation in the standard of value. It is argued that with a general rise in prices unless a utility is allowed to earn on its reproduction cost rather than on its actual cost the real value of its return in terms of other commodities will constantly decline. This, of course, is unfair to the utility. The utility is placed in the position of the bondholder who under rising prices sees the relative value of his income reduced. Such, however, would not be the necessary

result if actual cost were made the basis of fair value for rate purposes. With advancing prices operating expenses would necessarily increase, thus tending to increase the fair rate of charge. Moreover, with a general advance in prices it seems that rates of interest and profits also increase, thus increasing the fair rate of return. If the fair rate of return is increased to correspond with the general increase in interest rates and rates of profit, the investor in public utilities is treated fairly if his return is based on actual cost and not on reproduction cost. If fair value is based on reproduction cost and the fair rate of return on present increased interest rates and rates of profit, the investor in public utilities is more than doubly compensated for the general rise in the level of prices.

The difference between actual cost and reproduction cost as a standard of value appears chiefly with reference to a few items, such as copper wire and iron pipe, that fluctuate greatly in value, with reference to land, the general tendency of which is to increase in value in growing communities, and with reference to certain long-lived units that reflect the movement in the general price level. The two methods show little difference in so far as all short-lived units are concerned. In the case of an ordinary electrical property it makes little difference in regard to items other than land whether the actual cost or the reproduction cost method is used. In this statement it should be noted that actual cost is taken as the first cost of the units now in place and not as the first cost of the original units. If the first cost of the original units were taken, there would in many cases be a very great difference between actual and reproduction cost.

§ 1015. Theory and limitations of the reproduction standard.

As justifying the reproduction method it may be argued that the public is always entitled to secure service under

present conditions as to cost of production. It is entitled to secure service at a rate of charge sufficient only to cover cost of operation, interest and profits of a substitute plant of the most modern approved design, capable of performing the same service as the existing plant. The company assumes the risk and enjoys the profit, if any, incident to this arrangement. This method involves a reproduction of the service rather than a reproduction of the plant. If the old plant were wiped out, what would it cost at present to construct and operate a plant capable of performing the service now performed by the old plant? In the case of a water plant, perhaps an entirely new source of supply would be used and the distribution system radically changed; in the case of a gas plant, a different process of production employed and a few gas-holders substituted for many small ones; in the case of an electric plant, larger units of production employed; in the case of a railroad, there might be a radical relocation and re-alignment of roadbed and important changes in the method of construction, leading to great economies in operating cost. It has been stated that "if our railways were to be built anew, in the light of our present knowledge and with our present traffic offerings and financial resources, vast changes would be made in the character of construction."⁴

As thus stated, the reproduction method has so many difficulties that it is practically never employed. The reproduction of the service involves not only the determination of the cost of the most efficient substitute plant, but the determination of the present cost of reproducing the business, the proper allowance under present conditions for interest and profit and the operating costs for the substitute plant. In most cases it is exceedingly diffi-

⁴ J. E. Willoughby in *Proceedings of American Society of Civil Engineers*, January, 1911, page 119.

cult and expensive to determine the design of an equally efficient substitute plant. In the case of a railroad, for example, the cost of determining a substitute location and of estimating the operating costs thereon would be so great as to render it entirely impractical as a factor in rate regulation. It would require a careful survey of various available locations and estimates of construction and operating costs. The engineering costs of such survey and estimates would be enormous.

The cost of reproduction in practice, therefore, instead of meaning the cost of a substitute plant of the most modern approved design, capable of performing the same service as the existing plant, has come to mean the cost of a substantially identical reproduction of the existing plant. This is the usual method. It involves, however, a partial abandonment of the reproduction of the service theory and a somewhat imperfect recognition of the fact that cost of production is necessarily related to the past as well as to the present and future. It constitutes an imperfect recognition of the necessary continuity in the life of the plant and its service.

By a further modification of the cost-of-reproduction method, cost of reproduction is made to mean not the cost at present prices of land, labor and materials of reproducing a substantially identical plant under *present conditions*, but the cost, at present prices of land, labor and materials, of reproducing a substantially identical plant under the *actual conditions* under which the existing plant was originally constructed. Under this method expenditures actually incurred in the development of the present property are fully allowed for, even though they would not be met with in the reproduction of an identical substitute plant. On the other hand, certain expenditures that have not been incurred in the development of the existing property but would be incurred in the reproduc-

tion of the existing property are excluded. The following is a statement of expenditures that would be included under this interpretation of the reproduction method: "If trees were cleared, then he (the appraiser) must allow for the cost of clearing, although not a tree may now be standing. If streets were graded, then that grading must be estimated, though to-day the entire city is as level as a floor. If quicksand was encountered in laying a pipeline, then the added cost of excavating it must be allowed, even though subsequent works have drained the line so that it no longer has a yard of quicksand. If money was spent to educate the public to the use of the commodity sold by the corporation, then that money is a development expense which must be allowed, even though the expense would not now be incurred by a new corporation of like character." ⁵ Pavement over mains laid at the expense of the city, on the other hand, is an example of a reproduction cost that would not be included under the modified rule above mentioned.

The consideration under the reproduction method of piecemeal construction depends upon whether the modified view of cost of reproduction above referred to is adopted. Under a strict application of the reproduction method there would be no occasion for the application of piecemeal methods. The entire property would be reconstructed by the quickest and most economical method. The actual cost of constructing gas mains has doubtless increased where from time to time additional mains have been laid in the same street to meet increased demands. In the laying of telephone conduits and cables by the piecemeal method additional cost is also incurred. On the other hand, certain overhead charges, such as organization, engineering and interest during construction, may

⁵ Discussion by Halbert P. Gillette in "Transactions of American Society of Civil Engineers," 1911, vol. 73, pp. 382.

be lower where the property is constructed by the piecemeal process. Various authorities in using the reproduction method have considered it proper to allow for piecemeal construction. To this extent they have abandoned the strict reproduction method.

A strict application of the reproduction method means that interest and profits shall be determined by present conditions. If the existing property were wiped out, upon what terms could capital be induced to invest in a similar property under existing conditions as to interest and risk? This theory disregards entirely the risk assumed when the existing enterprise was started and when the successive additions to investment were made. Most authorities recognize, however, that a fair return on investment can not be determined in this way. Consideration must necessarily be given to initial risks and past earnings.

The reproduction method does not fit in with depreciation and accounting methods. The annual allowance for depreciation under approved accounting methods is not the amount required to replace the existing unit, but the amount required to write off the cost of the existing unit when it is necessary to replace it. Under approved methods the actual cost of a car when replaced is deducted from the capital account, and the cost of the new car is added to the capital account. An allowance for depreciation estimated on reproduction cost is consequently inaccurate in proportion as the reproduction cost differs from the actual cost. As long as the science of accounts is predicated on actual cost it is inconsistent and confusing in any proceeding to determine cost of production to base either the accrued depreciation or the annual allowance for depreciation on reproduction rather than actual cost.

§ 1016. Definition of actual cost and method of its determination.

The question of actual cost has been usually dismissed in connection with valuation cases and discussions by the simple statement that inasmuch as its determination was entirely impracticable any consideration of the subject must be purely academic. This, it seems, has been largely the result of a somewhat confused conception of actual cost. Actual cost properly considered may in a great majority of cases be determined with much greater accuracy than reproduction cost. The term "actual cost" may possibly be taken in three senses: (1) book cost; (2) the first cost of the original units; (3) the first cost of the identical units now in use. The confusion has arisen from identification of actual cost with book cost or first cost of original units, or both. Properly speaking, actual cost is the first cost of the identical units now in use. In the past both the terms "actual cost" and "original cost" have been used, the term "original cost" being most frequently employed. The term "actual cost" should be substituted, as the term "original cost" appears to mean the first cost of the original units.

Book cost would be the same as actual cost, *i. e.*, the first cost of the identical units now in use, assuming that approved accounting principles had been strictly applied from the initiation of the enterprise. Correct accounting principles are, however, of comparatively recent acceptance and application. Book costs as actually developed often include discount on securities issued, exorbitant profits to promoters, cost of replacing wornout or superseded property, dividends paid out of capital and money sunk in unsuccessful experiments. On the other hand, book cost may exclude various actual costs, such as improvements and betterments constructed out of earnings and overhead construction charges included in operating expenses.

Original cost or the first cost of the original units is extremely difficult of ascertainment in the case of all the older enterprises. Accounts and records are lacking, and even if at hand would not necessarily be illuminating, inasmuch as the accounting principles and methods applied are not in evidence. A particular unit may have been replaced many times; there may be no record of the time when it was originally installed or of the character and quality of the unit when installed. To the first cost of the original unit there would be added or deducted at the time of successive replacements the proportion of the cost of the new unit represented by any increase or diminution in the capacity of such unit. When a street car with a carrying capacity of 24 is replaced with one having a carrying capacity of 30 one-fifth of the cost of the new car would be added to capital cost. When in turn the 30-passenger car came to be replaced by a 40-passenger car, one-fourth of the cost of such new car would be added to capital cost. Thus the determination of original cost in this sense would require a complete knowledge of the physical and accounting history of the enterprise.

If actual cost be taken in the sense of original cost or first cost of the original unit, it may be ruled out as impracticable of ascertainment in the majority of cases. Under approved accounting principles, however, actual cost is not the first cost of the original unit but the first cost of the identical unit now in use. Under approved accounting methods, when a given unit is replaced the cost of the replaced unit is deducted from the capital account and the cost of the new unit is added to capital account. Thus the true book cost corresponds with the first cost of the identical unit now in use. This greatly simplifies the problem of determining actual cost.

Assuming that existing accounts and records may be only partially relied upon, an estimate of actual cost

can be ascertained by much the same methods as and with greater accuracy than an estimate of reproduction cost. The first essential in either case is a complete inventory of property units in use. A second requirement in both cases is the determination of the approximate time at which each such unit was installed. This information is essential under the reproduction method in order to determine the age and accrued depreciation of each unit or class of units. It is essential under the actual cost method in order that unit costs varying with the period of purchase may be applied. Records are available showing for any period the prevailing prices of labor and materials entering into construction costs. From such records, supplemented in many cases by fragmentary data obtainable from the books of the company, it is possible to apply unit costs. In the electrical industries, particularly, a large part of the property is short-lived, so that even if records are at hand for the past five or ten years only data that will fix within narrow limits the actual cost of a large proportion of the existing property can be ascertained. The actual cost of land, even in the case of old enterprises, can often be obtained from the company's records. If such records are entirely lacking, the value of the land at the time of its purchase may be estimated from tax assessments and records of purchases and sales at the time. Such an estimate will, in most cases, come nearer to the true purchase price than present estimates of reproduction of the land will come to the true reproduction cost. A succinct statement of the method to be employed by the engineer in estimating actual cost is contained in a recent book by Hammond V. Hayes, entitled "Public Utilities; Their Cost New and Depreciation" (at page 108):

By far the larger part of these difficulties is removed if the original cost is determined in substantially the same manner as

was the replacement cost. An inventory is prepared showing all plant units now in useful service. Such an inventory is identical with that required for ascertaining replacement cost. The age of each unit is ascertained and entered in the inventory. As will be explained later, this figure for age is necessary for a determination of the loss in value of the investment arising from depreciation. From this age figure it is possible to find how many units of each class of elements were constructed in each year in the past. The engineer and an accountant familiar with the company's records can ascertain the unit costs of all elements for each year in the past. The sum of the products of the numbers of units constructed each year by the unit costs for that year will give the original cost. Overhead charges can be found for each year and applied to the cost of construction each year in a manner similar in all respects to that described under replacement cost. Thus it is seen that the method of determining original cost is practically the same as replacement cost except that in the case of the original cost there are several unit costs, one for each year in the past, for each element, whereas for replacement cost there is but one unit cost applicable to all units of the same kind.

§ 1017. Standard of value as affected by past conditions and vested rights.

If public service industries were not already long established and our problem was that of devising a general policy that would serve as an adequate but not excessive inducement to obtain the establishment of the desired services, it seems clear that the actual and necessary outlay would naturally be taken as the normal capital cost upon which a fair rate of return would be allowed. The future cost of production of the service in a particular community would therefore depend somewhat on the prices of land, labor and materials prevailing at the time the particular plant was established. This seems natural and fair. The normal price of a virtual monopoly is necessarily something of an average. It can not be determined

wholly without reference either to past or future. The normal price is not the present-moment hypothetical cost of production, assuming a reproduction at the present moment of the existing plant. Utilities requiring a large fixed investment can not be permanently carried on on this basis with justice to the investor and economy to the public.

But our public service industries have for the most part been long established. A vested right to increments, especially in land values, is claimed. In the past, theories of public control have been but vaguely formulated and very imperfectly applied. Consequently many believe that the cost-of-reproduction method of determining capital cost or fair value is essential as a starting point, but for the future fluctuations in the price of land, labor and materials should result neither in an unearned increment or an unmerited loss to the investor.

What is equitable and just as regards the past depends upon the nature of the implied understanding between the public utility and the public at the time these investments were made. It is probably correct to say that no more definite understanding could have been implied than that the service would be supplied at the cost of production. Cost of production here means the actual cost of producing the service, including interest and normal profit, but excluding monopoly gains. Whether interest and normal profit were to be based on actual cost or on cost of reproduction was probably seldom considered, and there has certainly been no authoritative statement that could justify a conclusion that either the one or the other method would prevail.

If it were generally true that public utility properties could now be reproduced at less than actual cost, the argument for the acceptance of actual cost as a normal standard for fair value would appeal very strongly to the public

utility interests. As, however, prices of land, labor and material have in general advanced enormously since 1896, most utility enterprises can only be reproduced to-day at a cost considerably in excess of the actual necessary cost. It is natural, therefore, that public utility interests should incline strongly toward the reproduction method.

It may be argued that it has at least for a considerable number of years been recognized by the highest courts that the company is entitled to earn a fair return on the fair value of its property. The courts have used the terms "value," "present value," "fair value," "reasonable value" and "just value" in relation to the amount upon which the fair rate of return should be based. That they have not usually had current exchange value in mind is clearly apparent from the fact that the chief weight in determining value has been given to cost, either actual cost or reproduction cost. They have usually used "value" in the sense of "normal value," as that term is understood by economists, *i. e.*, a value corresponding to the cost of production. It seems at first thought that reproduction cost corresponds more nearly to any proper use of the term "value" than does actual cost. It does have a closer relation to exchange value, but not necessarily a closer relation to normal value or cost of production, which is the only sense in which the term "value" can be properly used in this connection.

§ 1018. Normal actual cost should at least be adopted for the future.

While doubt as to the nature of the implied agreement and consideration of vested rights prevent a definition of what constitutes fair value as regards the past, this should not prevent the adoption of a standard to govern future investments and future fluctuations in existing investments. If normal actual capital cost were adopted

as the rule for the future, accounting methods and rate regulation would be much simplified and the relations between the utilities and the public placed on a much more equitable and dependable basis. The adoption of this as the normal standard for appropriately located and successful enterprises would not mean that exceptional efficiency shown in the construction or operation of an enterprise could not be properly rewarded, or, on the other hand, that exceptional inefficiency could not be penalized. Such reward or penalty, however, is more properly reflected in the rate of return allowed.

DECISIONS RELATIVE TO FAIR VALUE

§ 1019. United States Supreme Court, 1896.

In *Covington and Lexington Turnpike Road Co. v. Sanford*,⁶ Justice Harlan, in discussing whether a rate schedule prescribed by statute is confiscatory, and the general basis for determining the reasonableness of a rate, says (at pages 596-597):

It is proper to say that if the answer had not alleged in substance that the tolls prescribed by the act of 1890 were wholly inadequate for keeping the road in proper repair and for earning dividends, we could not say that the act was unconstitutional merely because the company (as was alleged, and as the demurrer admitted) could not earn more than four per cent on its capital stock. It can not be said that a corporation is entitled, as of right, and without reference to the interests of the public, to realize a given per cent upon its capital stock. When the question arises whether the legislature has exceeded its constitutional power in prescribing rates to be charged by a corporation controlling a public highway, stockholders are not the only persons whose rights or interests are to be considered. The rights of the public are not to be ignored. It is alleged here that the rates prescribed are unreasonable and unjust to the company

⁶ 164 U. S. 578, 17 Sup. Ct. 198, 41 L. Ed. 560, December 14, 1896.

and its stockholders. But that involves an inquiry as to what is reasonable and just for the public. If the establishing of new lines of transportation should cause a diminution in the number of those who need to use a turnpike road, and, consequently, a diminution in the tolls collected, that is not in itself a sufficient reason why the corporation operating the road should be allowed to maintain rates that would be unjust to those who must or do use its property. The public can not properly be subjected to unreasonable rates in order simply that stockholders may earn dividends. The legislature has the authority in every case, where its power has not been restrained by contract, to proceed upon the ground that the public may not rightfully be required to submit to unreasonable exactions for the use of a public highway established and maintained under legislative authority. If a corporation can not maintain such a highway and earn dividends for stockholders, it is a misfortune for it and them which the Constitution does not require to be remedied by imposing unjust burdens upon the public. So that the right of the public to use the defendant's turnpike, upon payment of such tolls as in view of the nature and value of the service rendered by the company are reasonable, is an element in the general inquiry whether the rates established by law are unjust and unreasonable. That inquiry also involves other considerations, such, for instance, as the reasonable cost of maintaining the road in good condition for public use, and the amount that may have been really and necessarily invested in the enterprise. In short, each case must depend upon its special facts, and when a court, without assuming itself to prescribe rates, is required to determine whether the rates prescribed by the legislature for a corporation controlling a public highway are, as an entirety, so unjust as to destroy the value of its property for all the purposes for which it was acquired, its duty is to take into consideration the interests both of the public and of the owner of the property, together with all other circumstances that are fairly to be considered in determining whether the legislature has, under the guise of regulating rates, exceeded its constitutional authority, and practically deprived the owner of property without due process of law.

§ 1020. Justice Brewer in *Cotting v. Kansas City Stock Yards Company*, 1901—Value of service to consumer.

In *Cotting v. Kansas City Stock Yards Company*⁷ the United States Supreme Court passes on the validity of a state statute prescribing rates of charge for stock yards doing a prescribed volume of business. The finding of the lower court (see § 23) was reversed, and the statute in question held invalid, on the ground that it applied only to the Kansas City Stock Yards Company, and not to other companies engaged in like business in Kansas. This was the sole ground of the decision. Justice Brewer, however, submitted the opinion of the court, and in this opinion stated certain other grounds of unconstitutionality, but in doing so was not supported by the other Justices, as they found it unnecessary to express an opinion upon these matters. Justice Brewer holds that the rate in this case should be based on the reasonableness of the charge for each particular service, and that on this basis the rates in force prior to the passage of the Kansas statute were clearly reasonable. He points out that a railroad company or other public utility exercises some governmental power, such as the right of eminent domain, or enjoys some privilege or franchise granted by the state. In the case, however, of a stock yards company the owner merely devotes his property to a purpose which is not itself public, but which may be of sufficient interest to the public to require a certain degree of regulation. Regulation in such a case should not be based on the profit made by the company upon its entire business, but upon the reasonableness of the charge for each particular service, from the standpoint of the consumer. A rate that conforms to usage and is not higher than charges in other places is presumably reasonable. Justice Brewer says (at pages 93-98):

⁷ 183 U. S. 79, November 25, 1901.

Now in the light of these decisions and facts, it is insisted that the same rule as to the limit of judicial interference must apply in cases in which a public service is distinctly intended and rendered, and in those in which, without any intent of public service, the owners have placed their property in such a position that the public has an interest in its use. Obviously there is a difference in the conditions of these cases. In the one the owner has intentionally devoted his property to the discharge of a public service. In the other he has placed his property in such a position that, willingly or unwillingly, the public has acquired an interest in its use. In the one he deliberately undertakes to do that which is a proper work for the state. In the other, in pursuit of merely private gain, he has placed his property in such a position that the public has become interested in its use. In the one it may be said that he voluntarily accepts all the conditions of public service which attach to like service performed by the state itself. In the other that he submits to only those necessary interferences and regulations which the public interests require. In the one he expresses his willingness to do the work of the state, aware that the state in the discharge of its public duties is not guided solely by a question of profit. It may rightfully determine that the particular service is of such importance to the public that it may be conducted at a pecuniary loss, having in view a larger general interest. At any rate it does not perform its services with the single idea of profit. Its thought is the general public welfare. If, in such a case, an individual is willing to undertake the work of the state, may it not be urged that he in a measure subjects himself to the same rules of action, and that if the body which expresses the judgment of the state believes that the particular services should be rendered without profit, he is not at liberty to complain? While we have said again and again that one volunteering to do such services can not be compelled to expose his property to confiscation, that he can not be compelled to submit its use to such rates as do not pay the expenses of the work, and therefore create a constantly increasing debt which ultimately works its appropriation, still is there not force in the suggestion that as the state may do the work without profit, if he voluntarily under-

takes to act for the state he must submit to a like determination as to the paramount interests of the public?

Again, wherever a purely public use is contemplated, the state may, and generally does, bestow upon the party intending such use some of its governmental powers. It grants the right of eminent domain, by which property can be taken, and taken not at the price fixed by the owner, but at the market value. It thus enables him to exercise the powers of the state, and exercising those powers and doing the work of the state, is it wholly unfair to rule that he must submit to the same conditions which the state may place upon its own exercise of the same powers and the doing of the same work? It is unnecessary in this case to determine this question. We simply notice the arguments which are claimed to justify a difference in the rule as to property devoted to public uses from that in respect to property used solely for purposes of private gain, and which only by virtue of the conditions of its use becomes such as the public has an interest in.

In reference to this latter class of cases, which is alone the subject of present inquiry, it must be noticed that the individual is not doing the work of the state. He is not using his property in the discharge of a purely public service. He acquires from the state none of its governmental powers. His business in all matters of purchase and sale is subject to the ordinary conditions of the market and the freedom of contract. He can force no one to sell to him, he can not prescribe the price which he shall pay. He must deal in the market as others deal, buy only when he can buy, and at the price at which the owner is willing to sell, and sell only when he can find a purchaser and at the price which the latter is willing to pay. If under such circumstances he is bound by all the conditions of ordinary mercantile transactions, he may justly claim some of the privileges which attach to those engaged in such transactions. And while, by the decisions heretofore referred to, he can not claim immunity from all state regulation, he may rightfully say that such regulation shall not operate to deprive him of the ordinary privileges of others engaged in mercantile business.

Pursuing this thought, we add that the state's regulation of

his charges is not to be measured by the aggregate of his profits determined by the volume of business, but by the question whether any particular charge to an individual dealing with him is, considering the service rendered, an unreasonable exaction. In other words, if he has a thousand transactions a day, and his charges in each are but a reasonable compensation for the benefit received by the party dealing with him, such charges do not become unreasonable because, by reason of the multitude, the aggregate of his profits is large. The question is not how much he makes out of his volume of business, but whether in each particular transaction the charge is an unreasonable exaction for the services rendered. He has a right to do business. He has a right to charge for each separate service that which is reasonable compensation therefor, and the legislature may not deny him such reasonable compensation, and may not interfere simply because out of the multitude of his transactions the amount of his profits is large. Such was the rule of the common law, even in respect to those engaged in a quasi public service, independent of legislative action. In any action to recover for an excessive charge, prior to all legislative action, who ever knew of an inquiry as to the amount of the total profits of the party making the charge? Was not the inquiry always limited to the particular charge, and whether that charge was an unreasonable exaction for the services rendered? As said by Mr. Justice Bradley, in *Transportation Co. v. Parkersburg*, 107 U. S. 691, 699:

“It is also obvious that, since a wharf is property and wharfage is a charge or lien for its temporary use, the question whether the owner derives more or less revenue from it, or whether more or less than the cost of building and maintaining it, or what disposition he makes of such revenue, can in no way concern those who make use of the wharf and are required to pay the regular charges therefor; provided, always, that the charges are reasonable and not exorbitant.”

In *Canada Southern Railway Co. v. International Bridge Co.*, 8 App. Cas. 723, 731, Lord Chancellor Selborne thus expressed the decision of the House of Lords:

“It certainly appears to their lordships that the principle

must be, when reasonableness comes in question, not what profit it may be reasonable for a company to make, but what it is reasonable to charge to the person who is charged. That is the only thing he is concerned with. They do not say that the case may not be imagined of the results to a company being so enormously disproportionate to the money laid out upon the undertaking as to make that of itself possibly some evidence that the charge is unreasonable, with reference to the person against whom it is charged. But that is merely imaginary. Here we have got a perfectly reasonable scale of charges in everything which is to be regarded as material to the person against whom the charge is made. One of their lordships asked counsel at the bar to point out which of these charges were unreasonable. It was not found possible to do so. In point of fact, every one of them seems to be, when examined with reference to the service rendered and the benefit to the person receiving that service, perfectly unexceptionable, according to any standard of reasonableness which can be suggested. That being so, it seems to their lordships that it would be a very extraordinary thing indeed, unless the legislature had expressly said so, to hold that the persons using the bridge could claim a right to take the whole accounts of the company, to dissect their capital account and to dissect their income account, to allow this item and disallow that, and, after manipulating the accounts in their own way, to ask a court to say that the persons who have projected such an undertaking as this, who have encountered all the risks of executing it, who are still subject to the risks which, from natural and other causes, every such undertaking is subject to, and who may possibly, as in the case alluded to by the learned judge in the court below, the case of the Tay Bridge, have the whole thing swept away in a moment, are to be regarded as making unreasonable charges, not because it is otherwise than fair for the railway company using the bridge to pay those charges, but because the Bridge Company gets a dividend which is alleged to amount, at the utmost, to fifteen per cent. Their lordships can hardly characterize that argument as anything less than preposterous."

The authority of the legislature to interfere by a regulation

of rates is not an authority to destroy the principles of these decisions, but simply to enforce them. Its prescription of rates is *prima facie* evidence of their reasonableness. In other words, it is a legislative declaration that such charges are reasonable compensation for the services rendered, but it does not follow therefrom that the legislature has power to reduce any reasonable charges because, by reason of the volume of business done by the party, he is making more profit than others in the same or other business. The question is always, not what does he make as the aggregate of his profits, but what is the value of the services which he renders to the one seeking and receiving such services. Of course, it may sometimes be, as suggested in the opinion of Lord Chancellor Selborne, that the amount of the aggregate profits may be a factor in considering the question of the reasonableness of the charges, but it is only one factor, and is not that which finally determines the question of reasonableness. Now, the controversy in the Circuit Court proceeded upon the theory that the aggregate of profits was the pivotal fact. To that the testimony was adduced, upon it the findings of the master were made, and in recognition of that fact the opinion of the court was announced. Obviously, as we think, in all this the lines of inquiry were too narrowly pursued.

It may be said that the conclusion of the court was directly against the plaintiffs, and therefore was a decision against all their contentions. It was found, however, that the charges made by the defendant were no greater (and in many instances less) than those of any other stock yards in the country. Nothing is stated to outweigh the significance of that finding. While custom is not controlling, for there may be a custom on the part of all stock yards companies to make excessive charges, yet, in the absence of testimony to the contrary, a customary charge should be regarded as reasonable and rightful. In *Gunning on Laws of Tolls*, the author says (page 61): "Long usage and acquiescence in one uniform payment for toll is undoubtedly cogent evidence that it is reasonable." In *Shepard v. Payne*, 12 C. B. (N. S.) 414, 433, Willes, J., said:

"A fee need not be of a fixed and ascertained, but may be of a reasonable amount; and, exercising the power conferred upon

us by the case, to draw inferences of fact, we may conclude that, if the claim can be sustained in point of law, it was in fact for a reasonable fee. If so, then, looking to the amount established for similar services by other officers, and remembering what fees have been paid and received within the memory of us all, in the courts of Westminster Hall and at the Assizes, we think there can be little doubt that the fees in question, so far as amount is concerned, are in fact reasonable."

In *Louisville, Evansville, etc., Railroad Co. v. Wilson*, 119 Indiana, 352, 358, is this language:

"The law makes it the duty of every common carrier to receive and carry all goods . . . and authorizes a reasonable reward to be charged for the service. The amount to be paid is, in a measure, subject to the agreement of the parties; but, when the amount is not fixed by contract, the law implies that the carrier shall have a reasonable reward, which is to be ascertained by the amount commonly or customarily paid for other like services. *Johnson v. Pensacola, etc., Railroad Co.*, 16 Florida, 623; *Angell, Carriers*, section 392; *Lawson, Contracts of Carriers*, section 125."

§ 1021. United States Supreme Court in Minnesota Rate Cases.

Justice Hughes, in delivering the opinion of the court in the Minnesota Rate Cases,^{*} states that in determining whether rate regulation is confiscatory, "each case must rest upon its special facts." He states, however, that "the general principles which are applicable in a case of this character have been set forth in the decisions." He states that the basis of calculation is the fair value of the property used for the convenience of the public, but that the ascertainment of fair value is not controlled by artificial rules and is not a matter of formulas, but "must be a reasonable judgment having its basis in a proper consideration of all relevant facts." He states that the facts to be considered are partly described in the oft quoted ex-

^{*} 230 U. S. 352, 33 Sup. Ct. 729, June 9, 1913.

tract from *Smyth v. Ames*. The following is from the decision (at pages 434–435):

(1) The basis of calculation is the “fair value of the property” used for the convenience of the public. *Smyth v. Ames*, *supra* (p. 546). Or, as it was put in *San Diego Land & Town Co. v. National City*, *supra* (p. 757): “What the company is entitled to demand, in order that it may have just compensation, is a fair return upon the reasonable value of the property at the time it is being used for the public.” See also *San Diego Land & Town Co. v. Jasper*, *supra*; *Willcox v. Consolidated Gas Co.*, *supra*.

(2) The ascertainment of that value is not controlled by artificial rules. It is not a matter of formulas, but there must be a reasonable judgment having its basis in a proper consideration of all relevant facts. The scope of the inquiry was thus broadly described in *Smyth v. Ames*, *supra* (pp. 546–547): “In order to ascertain that value, the original cost of construction, the amount expended in permanent improvements, the amount and market value of its bonds and stock, the present as compared with the original cost of construction, the probable earning capacity under particular rates prescribed by statute, and the sum required to meet operating expenses, are all matters for consideration, and are to be given such weight as may be just and right in each case. We do not say that there may not be other matters to be regarded in estimating the value of the property. What the company is entitled to ask is a fair return upon the value of that which it employs for the public convenience. On the other hand, what the public is entitled to demand is that no more be exacted from it for the use of a public highway than the services rendered by it are reasonably worth.”

The court below had based its ascertainment of value upon the cost-of-reproduction-new. The Supreme Court reviewed this determination chiefly with reference to the valuation assigned to land used for right of way and terminal purposes. The court rejected both the actual-cost method and the reproduction-cost method as applied to a

valuation of land and held that the company "would certainly have no ground of complaint if it were allowed a value for these lands equal to the fair average market value of similar land in the vicinity, without additions by use of multipliers, or otherwise, to cover hypothetical outlays." (See also § 1090.)

The court also held that the cost-of-reproduction-new as applied to structures should be diminished by the amount of existing depreciation in such structures. Going value, franchise value and other intangible elements were not considered by the court except that in considering adaptation and solidification as an offset for depreciation, the court refers to the fact that "knowledge derived from experience" and "readiness to serve" were mentioned as additional offsets and holds that "the realization of the benefits of property must always depend in a large degree on the ability and sagacity of those who employ it, but the appraisement is of an instrument of public service, as property, not of the skill of the users."

As to land value the court held that actual investment is not controlling and that it is the present value of the property of the company and not its original cost of which the owner may not be deprived without due process of law. The following is from the opinion of the court (at page 454):

It is clear that in ascertaining the present value we are not limited to the consideration of the amount of the actual investment. If that has been reckless or improvident, losses may be sustained which the community does not underwrite. As the company may not be protected in its actual investment, if the value of its property be plainly less, so the making of a just return for the use of the property involves the recognition of its fair value if it be more than its cost. The property is held in private ownership and it is that property, and not the original cost of it, of which the owner may not be deprived without due

process of law. But still it is property employed in a public calling, subject to governmental regulation, and while under the guise of such regulation it may not be confiscated, it is equally true that there is attached to its use the condition that charges to the public shall not be unreasonable. And where the inquiry is as to the fair value of the property, in order to determine the reasonableness of the return allowed by the rate-making power, it is not admissible to attribute to the property owned by the carriers a speculative increment of value, over the amount invested in it and beyond the value of similar property owned by others, solely by reason of the fact that it is used in the public service. That would be to disregard the essential conditions of the public use, and to make the public use destructive of the public right.

§ 1022. United States Supreme Court—Proof of confiscation.

In both the Missouri Rate Cases and the Minnesota Rate Cases the Supreme Court of the United States lays down the rule very clearly that proof of value must be clearly established in order to justify the court in declaring a specific law or order confiscatory. In the Missouri Rate Cases, Justice Hughes discusses this question as follows (at pages 498–499, 500):⁹

It is urged that there was other evidence in support of the conclusions reached. The court below, while finding values equal to those estimated by the state assessing board, also found that apart from the valuations of the state board, and upon the whole evidence, the property was at least worth the amounts mentioned in the findings. It was said that there had been considered “the immense terminal values of most of the roads, the amount of stock and bonds outstanding, what it would cost to duplicate the properties both with and without terminals in the large cities, and all the evidence bearing on present values.”

On examining the evidence, however, we find it to be too

⁹ 230 U. S. 474, 33 Sup. Ct. 975, June 16, 1913.

general and inconclusive to be regarded as sufficient proof to sustain the values as found. Undoubtedly, the companies possessed valuable terminals, but what the values were was not suitably shown. There is an absence of evidence, appropriately specific, dealing with the lands, improvements, structures, equipment and other property owned by each company and showing what the various items of property were worth. It would seem manifest from the character of the evidence which can be supposed to have relation to value that reliance was principally placed upon the estimates of the state assessing board. There was proof of the amount of stocks and bonds, of earnings, and also testimony as to the cost of certain recent construction, but while these matters could properly be considered in reaching a conclusion, we fail to find any adequate basis for the definite findings of value that have been made. We are referred to the testimony of two witnesses for the complainants, men of considerable experience in railroad affairs, but this consisted of broad estimates. . . .

Manifestly, a finding of confiscation could not be based on such a valuation in the absence of clear and convincing proof that the value actually existed and that the different items of property were estimated respectively by correct methods and in accordance with proper criteria of value.

§ 1023. Senate Committee on Interstate Commerce in reporting railroad valuation bill.

The act of Congress providing for a valuation of the property of common carriers by the Interstate Commerce Commission provides that the commission as a guide for arriving at the fair value of the property of the railroads and other common carriers shall determine (1) the original cost to date; (2) the cost-of-reproduction-new; (3) the cost-of-reproduction-less-depreciation; (4) other values and elements of value. The act in this form was reported by the Senate Committee on Interstate Commerce. The report of the committee, presented to the Senate February 20, 1913, by Senator Robert M. La Follette, contains

the following explanation of the reasons that influenced the committee in providing for the ascertainment of these four factors. The following is from the report (at pages 5-8): ¹⁰

The courts from the first have used various terms descriptive of the values and elements of value to be determined as a basis for ascertaining the fair value of railway property. Some of these terms they have altogether rejected. Others have come to have an accepted meaning and significance by commissions and courts and are recognized as covering all the elements of value attaching to the property of common carriers for rate-making purposes. When these values are once ascertained, each aids in correcting the other, and is given such weight as it is entitled to in enabling the commission and the court to arrive at the fair value of the property of the carrier used for its purposes as a common carrier. These terms accepted by recognized authority are: (1) The original cost to date; (2) cost-of-reproduction-new; (3) cost-of-reproduction-less-depreciation; (4) other values and elements of value—that is, intangible values. . . .

(1) *The original cost to date.*

Existing railroads have actually been built up through a series of years. The construction has been piecemeal and has advanced with the growth of the business. The original cost to date will, at every stage of construction, take account of the prices paid at the time for property, material, and labor; the amount of money paid out for legal services, engineers, architects, designers, management in organizing the corporation, and constructing the road. It will show the exact amount received from the sale of stocks and bonds, and if the bonds have been sold at a discount, the price realized, and all the expenses of brokerage. It will show the amount paid in by stockholders. If stocks or bonds have been issued for property instead of cash, the value of the acquired property will be ascertained. If the

¹⁰ Report of the Committee on Interstate Commerce, United States Senate, on Valuation of the Several Classes of Property of Common Carriers, presented by Senator Robert M. La Follette, February 21, 1913, 62d Congress, 3d Session, Senate Report No. 1290.

present corporation has acquired the property, or any portion thereof, at less than its physical value, or through some form of manipulation or combination or deception to the public, with a view of strengthening its monopoly character, and increasing its prospect for excessive value, or if its expenditures do not represent reasonable expenditures which ordinary business management would not have approved, all of these facts will be disclosed by ascertaining the original cost to date. And it will be for the commission and the courts to determine to what extent such investments will be allowed to be capitalized as against the public for rate-making purposes. In short, the original cost to date will show the true investment. . . .

(2) *Cost-of-reproduction-new.*

This will show the exact cost of reconstructing the property in all its parts at existing prices. While this may be regarded as a classification of diminishing value, it is contended that it is entitled to consideration in ascertaining the value of the physical properties of the carrier, and that contention is recognized by some commissions and some courts. It is therefore included as a separate classification.

(3) *The cost-of-reproduction-less-depreciation.*

This will show the exact cost of reproduction in existing condition. This cost is arrived at by taking the amount of depreciation which has occurred in every part of the property since it was laid down or employed in the public service. This is an element of value so generally considered essential by commissions and courts that the wisdom of ascertaining it will not be questioned.

(4) *Other values and elements of value—that is, intangible values.*

This classification provides for going value, good-will value, and franchise value. Whether any or all of these values will be considered by the commission or the courts in determining the fair value of the property, and, if so, what importance shall attach to them, is a matter for the commission and the courts. Especially as to intangible values, the commissions and the courts are in a transition period. The elements of value which will finally constitute fair value for rate-making purposes are

steadily narrowing. They are not expanding. No decision by commission or court will stand which is ultimately found to be unfair to the public or to the common carrier. The committee has, it is believed, provided for ascertaining every element of value which, upon recognized authority, should be considered.

§ 1024. Committee on Valuation of National Association of Railway Commissioners.

The Committee on Valuation of the National Association of Railway Commissioners ¹¹ in their 1913 report refer to the different uses of the term "value" and suggest that the term "amount" be substituted:

The persistence with which an expression will obtain, though open to criticism, is well illustrated by the rule that rates may not be reduced by governmental authority below what will be sufficient to allow a fair return upon the fair value of property used in the public service. Value in ordinary usage and in economic parlance is determined by the return to be obtained in the future. Applied to a public utility, the principle means ordinarily that the value of an undertaking is determined by the money profit which can be made from such utility in the future. Now, it is evident that the return which may be derived is largely dependent upon the rates which may be charged. Hence, if the rates are under discussion and the problem is what should be a fair rate for the service rendered, it is obvious that one is reasoning in a circle; if rates determine value, it is obviously unsound to say that value is to determine rates. Upon that basis a public authority could never order a reduction in rates, no matter how enormous the profits, unless such reduction in rates would increase the net earnings of the company and, therefore, the value of the property.

It must be assumed, and we think it is conceded, that the courts in giving their approval to the principle that rates must

¹¹ Report of the Committee on Railroad Taxes and Plans for Ascertaining Fair Valuation of Railroad Property, National Association of Railway Commissioners, October 30, 1913, Milo R. Maltbie, Chairman of Committee.

be sufficient to yield a fair return upon fair value did not intend to approve the unsound principle that in fixing value one should include any factor which is determined by earnings or rates, but rather that fair value should be fixed in a logical way and independently of the rates which were being considered as to their reasonableness. There is probably no rate decision of the highest courts in which the value of the property has been determined by its earning power; factors in which earning power have played little, if any, part have always been decisive.

The situation would be greatly simplified and many of the problems which have aroused such discussion could be dismissed if the courts had adopted, or were to substitute, the word "amount" for "value." It is true that "amount" has not a definite or positive meaning, but the word "value" has been robbed of its ordinary meaning, and has been used in so many different ways that it is not of much assistance in solving the problem of the reasonableness of a given rate. The Supreme Court of the United States has repeatedly announced that no one factor is determinative; but that various factors must be considered. In certain cases, counsel have argued that cost-to-reproduce-new should be the only principle to be followed and that the rate should allow a fair return upon the reproduction cost of all property. Likewise, original cost has been urged as the only fair standard. Both standards have been recognized as deserving consideration, but each has been repudiated by the highest courts as the sole standard. If, therefore, each case must be considered upon its merits, and if a number of factors are to be considered and a decision based upon all, it follows that a general term, such as "amount," would be much more satisfactory and as full of meaning as the word "value," the ordinary meaning of which is not accepted, and as to which an explanation and apology must be made whenever it is used.

§ 1025. Arizona Commission.

*Municipal League of Phoenix v. Pacific Gas and Electric Company*¹² involves the valuation of a gas and electric

¹² 21 A. T. & T. Co. Com. L. 699, June 23, 1913, Arizona Corporation Commission.

plant for rate purposes. In its decision in this case the Arizona Corporation Commission says (at page 708):

In this case the company contends for a valuation based upon an estimated cost as of June 1, 1906. The cost of properties of this character, when determinable, is and should be an element to be considered, but it is not the sole or controlling element. Cost and value convey different meanings: cost is the total amount expended, while the value of a plant is its present-day worth under prevailing conditions. A plant having a monopoly, and operating without commission or other regulating restraint, might be worth more upon an earning basis than one operating against competition or under regulation. . . .

Its earning worth or value during the period prior to the admission of Arizona into the Union as a state could be based upon its rates; the higher the rates the greater its earning value. Now rates must be based upon value, and, in the absence of other or better means, value must be determined by inventory and appraisal.

§ 1026. Kansas City street railway appraisal.

At the request of the receivers of the Metropolitan Street Railway Company the court appointed Bion J. Arnold as a special commissioner to investigate and report to the court what in his opinion was a "fair and reasonable sum to represent the capital value" of the street railway property "for adoption in a contract for new franchises." Mr. Arnold discusses the general principles that should govern a determination of capital value as a basis for fixing the relations of a street railway company in a fair franchise ordinance. His discussion presupposes an authorized and regulated monopoly operating under limited risks and with limited profits. Mr. Arnold says (at pages 27-28):¹³

¹³ Report of Bion J. Arnold, Special Commissioner, to the District Court of the United States, Western Division of Missouri. William C. Hook, Circuit Judge. Dated February 3, 1913.

In the determination of the capital value of a street railway company for adoption in a contract for a franchise between a company and the municipalities in which the properties of the company are operated, various elements of value should be considered. The value finally determined should be fair to both the public and the company, and such as would equitably serve as a basis for a fair franchise in which the relations between the municipality and the street railway company are clearly specified and defined.

These relations are essentially mutual. The company is engaged in the business of furnishing transportation service to the citizens of the community for profit, and in order that the maximum service may be furnished at a fair cost to the community, the company should enjoy a monopoly, because any given community in general can be better served by one company than by several. If it be given a monopoly, it should in return be required under suitable public control to furnish the community with the best service practicable consistent with the rate of fare fixed. In making the accompanying valuation and suggestions as to rehabilitation, it has been assumed that any new contract with the public will be based upon efficient and economical contractual relations between the parties and upon broad principles, which principles recognize that large capital investments are required for the construction and development of the property necessary to furnish the transportation service. Ordinarily street railway systems are built by private capital, which can only be attracted at reasonable rates on condition that a fair return be allowed upon a protected investment. If the relations between the municipality and the transportation company are not clearly defined, and if the ordinances under which the transportation system is operated contain restrictions or requirements which do not properly relate to the transportation business, it will be impossible to attract private capital at reasonable rates, and of necessity a greater return will be demanded either in a larger bond discount or in a higher rate of interest charge on such capital as the operating company may be able to secure for use in the construction and extensions of its property. On the other hand, other things being equal, if the

ordinance requirements fully realize the mutual relations between the transportation company and the municipality, and in a straightforward, businesslike method embody these provisions in a clear, fair, definite ordinance statement, it will be possible for the company to secure capital at a materially decreased expense, which will be reflected both in the interest and discount rates.

Mr. Arnold states in his report that in determining value for the purposes specified, the uses to which the properties are put and to which they are reasonably adapted must be considered. He says (at page 8):

In ascertaining the fair value for the uses to which the properties are and can be reasonably put, there should be taken into consideration these elements of value, each one of which is important, but no one of which is controlling: the extent, character and present condition of the property, together with its actual cost in the past; the cost to reproduce it just as it now exists; the depreciation of the property because of its use and actual condition; its earning power, past and prospective, the amount of earnings and operating expenses; the value fixed by tax assessing boards; the fact that it is a going concern operated as a whole, connecting various municipalities in different states and communities; the location and connections of its different lines with the probable permanency thereof, as compared with being upon other streets with other connections; the size and reasonably certain future growth of the communities, and the parts thereof served by the cars, the density of population and traffic, together with the nature and probable permanency thereof; the character and facilities of the property for rendering the kind of service to which the public is entitled, both now and in the future, with the largest saving in the investment of new capital and the amount and value of its stocks and bonded indebtedness, together with the financial history of the company. In this way, and by considering all such elements, the fair and reasonable value of the property can be ascertained.

As an element to be considered, Mr. Arnold determined

first the actual cash investment in the property and the actual return had thereon. He found a total actual cash investment of about \$34,000,000, of which amount about \$25,000,000 represented investment in the present property and about \$9,000,000 investment in superseded property. He then found that the aggregate net receipts for the period 1886-1912 were equivalent to but 5.36 per cent on the sum of the annual investment for each year during the same period. Mr. Arnold next found the present cost-of-reproduction-less-depreciation plus a reasonable allowance for intangible elements of value. All intangible elements of value were allowed for by an estimate of the present worth of future net earnings until the expiration of the present main franchise in 1925. The present value of the physical property was estimated at about \$22,000,000 and the net value of unexpired franchises or all intangible elements at about \$13,000,000, making a total of about \$35,000,000 by this method.

As a third method Mr. Arnold determined the value upon the basis of deferred earnings upon the actual investment by a method similar to that sometimes used by Wisconsin in determining going value. This method resulted in a total value of about \$35,000,000 or about \$44,000,000, according as 6 per cent or 7 per cent was used as the fair rate of return.

As a fourth method Mr. Arnold determined that the fair and reasonable market values of the property would in his judgment be not less than the sums found by the three preceding methods. As a result he determined that \$35,000,000 was the fair value of the property in question.

§ 1027. Nevada Commission—Value of service to consumer.

The case of *City of Ely v. Ely Light and Power Com-*

pany ¹⁴ involves the valuation of an electric plant for rate purposes. The Commission points out that in determining the price to be charged and the rate of return to be allowed, all features must be taken into consideration, including the value of the service to the consumer and the rates charged in communities similarly situated. The Commission says (at pages 595-596):

We also understand that in a state as large as ours the conditions may, and do, vary greatly in different parts of the state. For example, the conditions in Ely are not at all similar to the conditions in Reno, and if we were disposed to rely upon a mere comparison between the electric light charges in Ely and Reno, the comparison would operate very much to the disadvantage of Ely. Under existing conditions we would not think of ordering the same schedule of rates into effect at Ely that are applied by the Reno Power, Light and Water Company.

But we also have in mind the fact that with only two or three exceptions the rates charged at Ely are the highest of any in the state of Nevada; and further, that where the rates are as high as those in Ely the conditions are such that a generally higher range of prices obtains, as, for example, in Tonopah and Goldfield. Not only this, but it is by no means certain that a full investigation might not make it apparent that in the last-named towns the rates are rather higher than they should be in fairness to the people. Upon this point, however, we express no opinion. It is, though, perfectly obvious that the charges at Ely are considerably higher than the general average of such charges throughout this state. There is no doubt that the respondent company is entirely familiar with the schedule of rates of all other similar public service corporations in Nevada, the sworn reports of which are on file in this office, and constitute parts of the Commission's official records.

From this it is not to be understood that the element of revenue should not be considered and be given weight. A commission should not cut rates to such a scale as to confiscate

¹⁴ 24 A. T. & T. Co. Com. L. 578, June 7, 1913, Nevada Public Service Commission.

the property of a public service corporation, or, generally, to deprive it of a fair return upon the investment, which, in substance, means the same. No more should it pursue a policy which is calculated to discourage the investment of capital in public utilities, which are in the highest degree essential for the progressive development and general prosperity of a state. But we can not tie ourselves to the consideration of revenue alone. The right of the people to have the service rendered at reasonable rates is also undeniable, and this Commission is not at liberty to ignore that feature of this or any other case with which it is called upon to deal. Having due regard for all of these various considerations, the Commission can not avoid the conclusion that the present schedule of rates charged by the respondent company is too high, and that it should be materially reduced. We feel that this is due to the people who patronize the respondent and who give to its properties practically all the value they have.

§ 1028. New Jersey Commission.

The case of *Gately & Hurley v. Delaware and Atlantic Telegraph and Telephone Company* involves the valuation of a telephone plant for rate purposes by the Board of Public Utility Commissioners of New Jersey. The existing rates charged by the company were upheld by the Board, as they netted the company considerably less than the amount determined by the Board to be a fair return upon the fair value of the property. In regard to the general principles underlying valuation for rate purposes the Board says (at page 547): ¹⁵

It is a truism that in valuations for rate-making purposes no simple, uniform rule applicable to all cases exists. On the other hand, the general principles which underlie all just valuations for rate-making purposes are simple. These great general underlying principles are two in number.

The first aims at securing for consumers generally a prompt and adequate supply at reasonable rates of those services which

¹⁵ 1 N. J. B. P. U. C. 519, 14 A. T. & T. Co. Com. L. 39, January 7, 1913.

they require of public utility companies. To ensure this end a sufficient incentive must be held out to enterprisers and investors. Such an incentive is the assured prospect of a sufficient return upon outlay in supplying service. This first general principle is prospective in its reach; it looks to the future. It is comprehensive in its aim; it is bent on attaining the adequate supply of community wants.

The second general underlying principle seeks to conserve the legitimate value of investments in public utility enterprises. It regards the past rather than the present; the individual investors rather than the community of consumers. It is perfectly consonant with the first general principle enunciated. For unless the legitimate value of past investments is preserved by rate-making decisions, the effective incentive for individuals to take similar risks in future is impaired or extinguished.

§ 1029. New Jersey Supreme Court—Value to individual consumer.

In *Public Service Gas Co. v. Board of Public Utility Commissioners* the Supreme Court of New Jersey upheld an order of the Board of Utility Commissioners reducing the rates of the Public Service Gas Company. In this case the court construes the statute authorizing the Board to fix just and reasonable individual rates to mean that the rates must be just and reasonable to the individual consumer. The court holds that the real test of the reasonableness of an individual rate seems to be that the rate "should be as low as possible and yet sufficient to induce the investment of capital in the business, and its continuance therein," and that no better evidence of reasonableness can ordinarily be found "than the rates customarily charged in localities similarly situated." In delivering the opinion of the court Judge Swayze discusses this subject as follows (at pages 655-656):¹⁶

The next question is whether the rate fixed was just and

¹⁶ 87 Atl. 651, July 7, 1913.

reasonable. On the one hand, a just and reasonable rate can never exceed, perhaps can rarely equal, the value of the service to the consumer. On the other hand, it can never be made by compulsion of public authority so low as to amount to confiscation. A just and reasonable rate must certainly fall somewhere between these two extremes, so as to allow both sides to profit by the conduct of the business, and the improvements of methods and increase of efficiency. Justice to the consumer, ordinarily, would require a rate somewhat less than the full value of the service to him; and justice to the company would, ordinarily, require a rate above the point at which it would become confiscatory. To induce the investment and continuance of capital there must be some hope of gain commensurate with that realizable in other business; the mere assurance that the investment will not be confiscated would not suffice. Many of the cases in the federal courts and in the courts of our sister states have involved a determination of the confiscatory character of the rate under the fourteenth amendment or similar constitutional provisions. We are not called upon to deal with this constitutional question; we have to do only with the question submitted to our judgment by the legislature, and expressed in the language of the statute authorizing the commissioners to fix just and reasonable individual rates. The word "individual" is important. It connotes more than a mere distinction between the rates of one corporation and the joint rates mentioned immediately thereafter. If the legislation related to railroad rates alone, where joint rates are common, the word "individual" might have a narrow sense pointing to a distinction between the rate fixed by a single corporation and the rate fixed by two or more acting together. The statute relates to all public utility corporations, and the expression "individual rates" must be equally applicable to all. As applied to gas companies, the words can hardly be meant to point a distinction from joint rates; for a joint rate by gas companies must be a rare occurrence; in the actual situation in this state in 1911 almost inconceivable. We think the legislature must have had in mind the rate to the individual consumer.

In cases involving the constitutional question, the whole

property used in the particular public service and the net return upon the whole must be considered; and if the whole net return is a fair return for the whole property there is no confiscation, although some individual rates may be unremunerative. (*Minneapolis & St. Louis Rd. Co. v. Minnesota*, 186 U. S. 257; 22 Sup. Ct. 900; 46 L. Ed. 1151.) But where, as in this case, the individual rates must be just and reasonable, the net return upon the whole investment may be less than the ordinary return upon investments involving equal risks. (*Covington, etc., Turnpike Co. v. Sandford*, 164 U. S. 578; 17 Sup. Ct. 198; 41 L. Ed. 560), or may be very much more (*Cotting v. Kansas City Stock Yards Co.*, 183 U. S. 79, 22 Sup. Ct. 30; 46 L. Ed. 92). With this statutory declaration before us, we may well adopt the language of Lord Selborne, in *Canada Southern Railway Co. v. International Bridge Co.*, 8 App. Cas. 723: "The principle must be, when reasonableness comes in question, not what profit it may be reasonable for a company to make, but what it is reasonable to charge to the person who is charged. That is the only thing he is concerned with." Lord Selborne expressly reserves the case where the results to the company are so enormously disproportionate to the money laid out as to be some evidence that the charge is unreasonable with reference to the person against whom it is charged. That, however, is a case not now before us. By submitting the question of the justice and reasonableness of the individual rate to the commissioners, the legislature must have meant that, if that rate was just and reasonable, the company was to be allowed to secure such net returns on all its operations as might result from the volume of its business, or from its skill in conducting the same. By making the individual rate just and reasonable, one difficulty is avoided that would result from the attempt to make the justice and reasonableness of the rate depend upon the net result from the whole business; the difficulty is that a well-managed, old-established, successful company paying large dividends would be compelled to reduce its rates to the disadvantage sometimes of a new rival which, however well managed, might not yet be in vogue, and might be paying no dividends, and thus the natural advantage of the old-established company would be

artificially enhanced to the detriment of the new company. This difficulty is indeed less likely to arise in the case of a gas company than in the case of railroads between competing points; but as long as other methods of obtaining light, heat, and power are available, the difficulty is not negligible. An illustration is found in the necessity European governments have been under to forbid railroads to reduce their rates to such a point as to deprive public canals of traffic. A just and reasonable rate must allow for possible competition, and must be such as will allow the ordinarily well managed or ordinarily well located concern to exist without giving an artificial advantage to the more skillful or better located. There is another advantage which the legislature probably had in mind in requiring the individual rate to be just and reasonable. One of the difficulties in rate cases is to allow properly for a return justly due to superior skill. If rates were to be adjudged just and reasonable in accordance with the net returns upon the whole investment, the skillful, prudent, economical manager would have no advantage over his least skillful and most imprudent rival. The fruits of his skill would be seized for the benefit of the public. So, too, by the adoption of the standard of just and reasonable individual rate, the legislature has met the difficulty that would arise where one company, by reason of superior credit due to its greater age, greater vogue, or more efficient management, is able to secure capital at a lower rate of interest than another; to base the rate upon net returns on the whole business would either allow the more fortunate company a higher net return or reduce the net returns to the less fortunate company to a point where it would be impossible for it to secure capital. It was probably for these reasons, perhaps for other reasons also, that the legislature required the individual rate to be just and reasonable. The difficulty is that which is always present—to ascertain a standard by which this justice and reasonableness shall be gauged. The necessity of public regulation of rates arises out of the monopoly of the public service company. The unregulated price of the service ceases, except so far as some substitute for the particular service may be found to be determined by competition, and the individual consumer is unable to con-

tract on equal terms. Fixing rates by public authority may secure to each individual the advantage of collective bargaining by or in behalf of the whole body of consumers, and result in such a rate as might fairly be supposed to result from free competition, if free competition were possible. A just and reasonable rate, therefore, is necessarily rather a question of business judgment than one of legal formula, and must often be tentative, since the exact result can not be foretold. *Willcox v. Consolidated Gas Co.*, 212 U. S. 19, 29 Sup. Ct. 192, 53 L. Ed. 382, 15 Ann. Cas. 1034; *Northern Pacific Ry. v. North Dakota*, 216 U. S. 579, 30 Sup. Ct. 423, 54 L. Ed. 624. Like so many other questions in the law that involve the reasonableness of conduct, it is a question of fact to be settled by the good sense of the tribunal it may come before. That it is not a question of legal formula is shown by the decision that a rate may be reasonable although it fails to produce an adequate return to the public service company, owing to the fact that business has not developed sufficiently to be remunerative, or to the fact that the plant is on a larger scale than is justified by the present demand. *San Diego Land & Town Co. v. Jasper*, 189 U. S. 439, 23 Sup. Ct. 571, 47 L. Ed. 892; *Long Branch Commission v. Tintern Manor Water Co.*, 70 N. J. Eq. 71, 62 Atl. 474. The real test of the justice and reasonableness of an individual rate seems to be that it should be as low as possible and yet sufficient to induce the investment of capital in the business, and its continuance therein. This also is a business question, and depends on the opportunities that may be offered for more profitable investments and the risk involved. In determining the justice and reasonableness of rates, perhaps no better test can ordinarily be found than the rates customarily charged in localities similarly situated, although we do not say that even that test is infallible. A table printed in one of the briefs shows that while in some municipalities with a population no larger than that of the Passaic district the charge is less than 90 cents, in others it is as high or higher.

§ 1030. New York Commission, Second District.

In *Buffalo Gas Company v. City of Buffalo* the company

asked the New York Public Service Commission for the Second District to fix a rate for gas supplied to the city of Buffalo. The case does not involve the rates charged to general consumers. The cost of manufacture of gas per thousand cubic feet was increased owing to the competition of a natural gas company. This competition reduced the output of manufactured gas and consequently increased the per unit cost over what it might normally be in a city of the size of Buffalo. The Commission fixed a 90-cent rate for gas furnished to the municipality. The company was charging \$1.00 per thousand cubic feet to private consumers.

In this case the Commission considers at considerable length various methods of determining fair value for rate purposes. The Commission concludes that the determination of fair value "is not a fixing of value in any proper sense of that word as it is correctly used in our language." Fair value for rate purposes is not exchange value and it is not necessarily either original cost or reproduction cost, but "it is a determination of what under all the facts and circumstances of the case is a just and equitable amount upon which the return allowed to the corporation is to be computed." Chairman Stevens says (at page 644): ¹⁷

The assigning in this case of the proper weight to original cost, cost-of-reproduction-new, effect of competition, and the like, is an act of judgment and nothing more.

The foregoing considerations point with almost irresistible force to the conclusion that what is called the fixing of the value of the property in the public service for the purpose of rate making is not a fixing of value in any proper sense of that word as it is correctly used in our language. It is a determination of what under all the facts and circumstances of the case is a just and equitable amount upon which the return allowed to the

¹⁷ 3 P. S. C. 2d D. (N. Y.) 553, 23 A. T. & T. Co. Com. L. 244, February 4, 1913.

corporation is to be computed. If the time the determination is made happens to be at or near the time the plant is put in operation, the investment or original cost may be the predominant factor. If the time of determination is remote from the time of investment, the factor of appreciation or diminution in values arising from changes in costs of labor and materials may enter largely into the result. If the plant is unreasonably disproportionate in size to the service required of it, the cost-of-reproduction-new can not be the sole test. If the actual investment has been reckless and extravagant, the owners should bear the loss and not the public. If the general scale of prices and values in the community has been increased or diminished since the plant was built, the owners may be fairly called upon to share the general diminution; and on the other hand, may justly demand a share on the general appreciation to which the existence of their property has, it may fairly be assumed, contributed at least its proportionate share.

Chairman Stevens also states that fair value is not a matter of mathematical deduction. He says (at page 643):

If the foregoing discussion proceeds upon the right lines, it is apparent that the value of this property must be fixed like that of any other, as a matter of judgment and not as a matter of mathematical deduction. The same course precisely must be taken as is taken by those giving evidence upon the value of land. No one can say positively that a given piece of land has an exact value in dollars and cents. One can only compare it with sales of land in the vicinity and the general trend of prices and the probabilities of some one desiring to purchase the parcel in question within a reasonable time, the facilities which it offers for particular kinds of business, the character of the neighborhood in which it is situated fitting it for residence, for business, for manufacturing purposes, and the like. A thousand things enter into the estimate, and no one can assign an exact mathematical value to any one element. His final conclusion is reached as an act of judgment and not as an act of reasoning. No one in reaching such a conclusion, whether he values the

land by the foot frontage, by the square foot, or by the acre, can demonstrate the correctness of his conclusion as to his unit price, because that is a conclusion which he reaches without the use of pencil and solely by the exercise of his faculties.

Fuhrmann v. Cataract Power and Conduit Company ¹⁸ is a case involving the valuation of property of an electric company for rate purposes. In this case the New York Public Service Commission for the Second District considers at considerable length the relative merits of actual cost and reproduction cost as the most important factor in the determination of fair value. Chairman Stevens points out the advantages and disadvantages of both methods, but comes to the conclusion that actual cost, if possible of ascertainment, should be given much greater weight than the necessarily conjectural cost of reproduction. He holds that actual cost may, however, require diminution if it should be found that expenditures were extravagant or wasteful and that it may require increase if it be found that any of the property has actually increased in value since it was brought into the public service. Actual cost is therefore used for the purpose of determining present cost. In so far as prices of labor and materials have increased or in so far as land values have increased, a proper addition will be made to actual cost. Chairman Stevens states that the Commission's examination of unit prices and overhead percentages as testified to by the experts for the company indicated that such estimates were so conflicting and so at variance with the actual experience of the company that they would be given but little weight. He concludes that actual cost taken as the chief basis of investigation "will lead to more just and equitable results than any other one basis which is afforded by the evidence in the case."

¹⁸ 3 P. S. C. 2d D. (N. Y.) 656, 18 A. T. & T. Co. Com. L. 1015, April 2, 1913.

Chairman Stevens discusses at considerable length the difficulties of the reproduction and actual cost methods. For extended extracts from this discussion see § 1063. The final conclusion reached by the Commission was as follows (at page 691):

Without prolonging the discussion, the conclusion of the Commission is that in this case the fair value of the property used in the public service, or what is equivalent thereto, the fair amount of the investment upon which the return should be computed, may be better ascertained by giving the greater weight to the actual cost as the basis of the inquiry than in any other way. This actual cost may require diminution if it should be found that the expenditures were extravagant or wasteful. It may require increase if it be found that any of the property has actually increased in value since it was brought into the public service, and it may require increase for other reasons. It is not assumed that the actual amount of money expended by the company and placed upon its books as the cost of the property is the fair value. It is, however, assumed that such cost taken as the chief basis of investigation will lead to more just and equitable results than any other one basis which is afforded by the evidence in the case.

§ 1031. Wisconsin Commission.

The case of *City of Milwaukee v. The Milwaukee Electric Railway and Light Company* involves the valuation of a street railway for rate purposes. The Commission issued an order slightly reducing the existing rates of charge. The Commission states that no single factor can be said to control in fixing fair value in each and every case, and that while fair value may not agree either with the original cost or with the cost of reproduction it will in most cases be in the neighborhood of such costs. The Commission says (at pages 63-64, 85):¹⁹

The value of the property used and useful for street railway

19 11 W. R. C. R. 1, 14 A. T. & T. Co. Com. L. 197, August 23, 1912.

purposes in Milwaukee, upon which the company is entitled to a fair return, is the most important single factor affecting the determination of whether the company's present rate of fare is unreasonable and excessive.

A large number of factors have been suggested as probable tests of such a value. Among these are capitalization, the appraised cost-of-reproduction-new, the depreciated or present value, the appraised value of the earnings, the value for purposes of taxation, and the appraised value of the service.

Of these separate factors not much stress is laid upon the value based upon earnings, since it is recognized that in an inquiry involving the reasonableness of earnings such consideration ought not to affect the determination of the value upon which such rates are based. The appraised value for purposes of taxation may lead to similar erroneous conclusions. Such values are frequently based upon net earnings or the ability of the company to carry a portion of the general burden of taxation and involve a capitalization of net profits even though such profits arise from excessive rates.

In fact, the fair value of the property and business of such utilities can, as a rule, be best determined from such factors as their original cost of construction and development, and from the cost of reproduction of the same under conditions which are normal, and when, in both cases, full consideration is given to the depreciation that has taken place in the property because of age, use, and other reasons. Normal costs may be said to include all reasonable outlays that are necessary to obtain a needed plant and a business for this plant. It does not cover abnormal items such as excessive and unnecessary charges of any kind; nor capitalized monopoly profits, future growth, excessive development costs and other items of this nature.

The value of a plant and its business that is ultimately found to be fair and equitable under the circumstances may not agree either with the original cost or with the cost of reproduction, but in most instances it is likely to be found at some figure in the neighborhood of these costs. Operators in public utilities who fail to use ordinary business judgment, either in the location, construction, or management of the same, or who incur

unnecessary and excessive obligations in other ways, should not be permitted to shift such extra costs upon the public. It is, in fact, to prevent such shifting and other unfair practices of this kind, which are possible under monopolistic conditions, that public utilities have been placed under government regulation.

§ 1032. Wisconsin Commission—Allowance for economical management.

City of Milwaukee *v.* Milwaukee Gas Light Company ²⁰ involves the valuation of a gas plant for rate purposes by the Railroad Commission of Wisconsin. The company claimed that as an element of the value of its property consideration should be given to unusual foresight exercised by it in the installation of improved appliances. The Commission stated that it seemed reasonable that a portion of the economies earned by unusual skill and foresight should accrue to the company. To what extent this element entered into the valuation fixed by the Commission is not apparent. The Commission states, however, that in fixing the fair value of the property it has given "such weight as seems proper to the claims of the company for . . . economies resulting from unusual engineering foresight" (page 465). In discussing this subject the Commission says (at pages 453-454):

The respondent claims that the so-called "booster" system is an element of value. It appears that the Milwaukee Gas Light Company developed and installed this system of high pressure transmission of gas instead of the ordinary low pressure system previously used. It is claimed that this has resulted in great saving in capital expenditure and operation and that the respondent should be given credit for the skill and foresight in devising and installing improved appliances. It is estimated that the present capital saving exclusive of overhead cost is \$322,000 and that the ultimate saving will amount

²⁰ 12 W. R. C. R. 441, 24 A. T. & T. Co. Com. L. 708, August 14, 1913.

to \$1,149,000. It appears certain that this "booster" system has resulted in some saving in investment over an exclusively low pressure distribution system. It also seems reasonable that unusual skill and foresight should receive some reward. It will seem doubtful, however, if the entire estimated saving should accrue to the company. To accept such a theory would be to deny to the consumer any share in the progress of the industry.

RELATION OF CAPITALIZATION TO FAIR VALUE

§ 1033. Capitalization has no necessary relation to fair value.

Existing capitalization has no necessary relation to the determination of a reasonable rate of charge unless supplemented by evidence as to the actual methods by which the existing capitalization has been built up. Under prevailing methods of issuing securities capitalization is often merely a convenient method of dividing the risks and profits of proprietorship. By the issue of various classes of securities, first, second and third mortgage bonds, income bonds, preferred stock and common stock, investors are enabled to choose an investment which possesses for them the most desirable relation between safety and profit. The theory seems to be to satisfy the tastes of all classes of investors and speculators. When securities are issued on this basis it is clear that their aggregate par value can have little relation to fair value for any purpose. In many cases of original promotion or subsequent merger or reorganization it seems that the limit of aggregate capitalization has been an estimate of the largest amount upon which the company might hope to meet interest on bonds and have something left for a return on stock. The aggregate par value of securities issued is, therefore, a capitalization of expected or hoped for earnings. As fair value for rate purposes can not under normal conditions be based on earning capacity, it is apparent that a capitali-

zation so based can have little relation to fair value. The fact that securities have been issued nominally with the consent of the state can create no vested right or reasonable expectation that they will be considered by the state in a rate regulation proceeding. The facts relative to security issues are so well known, and the absence of any necessary relation between par value and actual investment so notorious, that no investor can reasonably claim ignorance of these conditions.

Nevertheless capitalization, and the exact method by which it has been constituted, should be in evidence in a rate proceeding. It may throw light on the reasonable costs of financing or it may indicate why the company is compelled to pay a high price for new capital. Overcapitalization may be the result of poor credit, or it may be the direct cause of poor credit. In either case the effect tends to be cumulative.

Where, as in Massachusetts, the security issues of public utility companies have for some time past been subject to strict regulation, capitalization may be an evidence of the amount of money that the security holders have actually contributed to the enterprise. Allowing for discounts on bonds and premiums on stock the capitalization as compared with the estimated actual cost will indicate the extent to which improvements have been made out of earnings or out of moneys set aside for depreciation. Such facts may have an important bearing either upon the fair value of the property for rate purposes or upon the fair rate of return.

§ 1034. United States Supreme Court, 1909.

In *Knoxville v. Knoxville Water Company* ²¹ the United States Supreme Court holds that under the facts of the case showing an issue of securities for construction the

²¹ 212 U. S. 1, 29 Sup. Ct. 149, January 4, 1909.

par value of which largely exceeded the actual cost of the work, capitalization affords "neither measure of nor guide to the value of the property." Justice Moody says (at page 11):

Counsel for the company urge rather faintly, that the capitalization of the company ought to have some influence in the case in determining the valuation of the property. It is a sufficient answer to this contention that the capitalization is shown to be considerably in excess of any valuation testified to by any witness, or which can be arrived at by any process of reasoning. The cause for the large variation between the real value of the property and the capitalization in bonds and preferred and common stock is apparent from the testimony. All, or substantially all, the preferred and common stock was issued to contractors for the construction of the plant, and the nominal amount of the stock issued was greatly in excess of the true value of the property furnished by the contracts. A single instance taken from the testimony will illustrate this. At the very start of the enterprise a contract was entered into for the construction of a part of the plant which was of a value slightly, if at all, exceeding \$125,000. The price paid the contractor was \$125,000 in bonds and \$200,000 in common stock. Other contracts for construction showed a like disproportion between value furnished and nominal capitalization received for that value. It perhaps is unnecessary to say that such contracts were made by the company with persons who at the time, by stock ownership, controlled its action. Bonds and preferred and common stock issued under such conditions afford neither measure of nor guide to the value of the property.

§ 1035. Interstate Commerce Commission, 1909.

In *Spokane v. Northern Pacific Railway Company* the Interstate Commerce Commission ²² holds that in deciding upon what is fair value for the determination of reasonable rates the fact that stock was sold to stock-

²² 15 I. C. C. R. 376, February 4, 1909.

holders at par from time to time, although the market value of the stock was above par, and that certain stock was issued without any money consideration, can have no bearing upon the earnings to which the company is entitled. Commissioner Prouty, in delivering the opinion of the Commission, says (at page 410):

Of the \$150,000,000 of the capital stock of the Great Northern Railway Company outstanding, \$30,000,000 has been issued without the payment to that company of any money consideration. The complainant insists that we should deduct from the outstanding capital stock of the Great Northern Railway Company this \$30,000,000 and allow that company to earn dividends not upon \$150,000,000, its actual issue, but upon \$120,000,000, the amount for which cash was received.

This claim is undoubtedly somewhat different from the two preceding. A stockholder by the purchase of a share of stock becomes a part of the corporation and must of necessity stand like every other stockholder whose stock is of the same grade. If the stock of the corporation has been inflated, his stock, even though he pays par for it, becomes tainted with that inflation. As a practical matter, this must be so. But we very much doubt whether in determining what rate of dividend the stock of a railway company may earn we can properly deduct in every instance watered stock. It is impossible to distinguish the spurious from the genuine. Those who received their stock without consideration have usually parted with it and that very stock, if it could be identified, is owned by its present possessor for a valuable consideration. The whole stock has gone upon the market, has assumed a market value, has become the subject of investment by innocent stockholders. We may undoubtedly and we should have in mind the manner in which this stock was issued and the consideration which was paid for it, but we do not think that we should, for example, treat the outstanding capital stock of the Great Northern Railway as \$120,000,000 and not \$150,000,000. These transactions ought to have been prevented to begin with. Great sums might have been properly saved the public by suitable super-

vision at the outset, but the evil has been done and for the most part can not be safely undone. If this Government in the past has permitted the "capitalization" of earnings and securities and the "conferring of benefits," it ought not to-day to penalize the innocent holder of the values thus created.

The Commission of course considers capitalization as only one element in the determination of fair value. The above opinion gives no indication as to how much weight should be given to capitalization as compared with other factors considered, such as actual cost and cost of reproduction.

§ 1036. Federal Court.

Texas and Pacific Railway Company v. Railroad Commission of Louisiana ²³ involves the validity of certain railroad rates fixed by the Railroad Commission of Louisiana. The Circuit Court of Appeals refused to enjoin the enforcement of the rates. The master in recommending that the rates be enjoined based value on the amount of outstanding securities. The court holds this method of valuation improper (at page 286):

The master found the value of the entire railroad to be \$93,385,341.32, this estimate of the value of the railroad being based, as has been stated, on the amount of outstanding stock and bonds. Clearly this method of reaching the value of the railroad was unsatisfactory, and does not comply with the rule laid down in *Smyth v. Ames*, *supra*.

In *Louisville and Nashville Railroad Company v. Railroad Commission of Alabama* ²⁴ the fair value found is based chiefly on cost-of-reproduction-less-depreciation. In regard to relation of capitalization to fair value for rate purposes Judge Jones says (at pages 820-821):

²³ 192 Fed. 280, November 22, 1911.

²⁴ 196 Fed. 800, April 5, 1912.

The market value of bonds and stocks, while shedding in some cases light on the question of present value, can not, except in a very slight measure, indicate what that value is as a matter of fact. The market value of stocks and bonds merely shows the public estimate of the value of the whole property contributing to the income, which may, as in the case of the Louisville and Nashville Railroad, embrace millions of dollars of property not used as a common carrier. And this public opinion is also open to the influences of stock jobbing manipulation and artificial bookkeeping, without the advantages of sworn inventories and the precise testimony of competent and disinterested witnesses on exact inventories of existing property. A road may have a small amount of stock compared to its property, as in the case of the Louisville and Nashville Railroad, and it may have no bonds or a large amount of bonds against its property and the two combined may not, with premiums or discounts taken into consideration, indicate with any accuracy the present values of the property invested in the business and used as a common carrier.

Montana, Wyoming and Southern Railroad Company v. Board of Railroad Commissioners of Montana ²⁵ involves a valuation for rate purposes. The District Court enjoined the enforcement of a rate fixed by the Montana Commission. The court holds that the amount of bonded debt is not a complete or accurate criterion of value. Circuit Court Judge Hunt says (at pages 1006-1007):

From these figures it is plain that not only was the complainant unable to meet annual interest charges on its bonded debt of \$950,000, but that there was a deficit of \$15,025.95. Complainant company would therefore find itself unable to meet its obligations upon a continuance of the rate of 35 cents per ton for coal, with a haul of, say, 251,163 tons.

But we must not accept the amount of the bonded debt as a complete or accurate criterion of the value of the property. Reference to it may be had merely for purposes of argument.

²⁵ 198 Fed. 991, March 30, 1912.

President Hadley, of Yale University, in the report of the Railroad Securities Commission to the President of the United States, dated November 1, 1911, says that:

“In so far as the value of the property is an element in rate regulation the outstanding securities are of so little evidentiary weight that it would probably be of distinct advantage if courts and commissions would disregard them entirely, except as a part of the financial history of the property, and would insist upon direct evidence of the actual money invested and of the present value of the properties.”

§ 1037. California Supreme Court, 1897.

San Diego Water Company v. City of San Diego,²⁸ involves a valuation for rate purposes. The lower court held the municipal ordinance unconstitutional, but was reversed by the Supreme Court and the cause remanded for a new trial. The decision in this case was rendered by a divided court. Six of the seven judges concurred in the findings, but four separate or concurring opinions were rendered. The opinion of Judge Van Fleet, concurred in by two other judges, contains the following (at page 633):

This being so, the existence of the bonded indebtedness, on which so much stress has been laid, and which has seemed to present so difficult a problem in some of the cases, must be disregarded. That fact, indeed, it seems to us, can never be important, except as entitling the holders of the bonds, as parties in interest, to be heard in actions like the present. Evidently no distinction can be made between those who construct the works with their own money and those who do so with money borrowed from others. In either case the money actually invested is the basic criterion of the revenue to be allowed.

Judge Garoutte in a concurring opinion says (at page 640):

But as to the amount of the bonded indebtedness, or the amount of interest annually accruing, we fail to see their materi-

²⁸ 118 Cal. 556, 50 Pac. 633, October 9, 1897.

ality in determining the value of the plant, or the sum total of revenue to be raised from the sales of water. It is not a question in which rate payers are concerned whether the water company has no outstanding indebtedness, or is floundering under a bonded debt, which threatens to sink it at any moment. If the municipality is required to establish its scale of rates which will produce a revenue sufficient to pay interest upon outstanding bonds, this provision of the constitution would not only be a perpetual guaranty to the bondholders for the payment of their annual interest, but a constant incentive to additional issues of bonds. Such conditions were never contemplated by anybody. . . . A municipality must fix a fair and just rate for the water, based upon the valuation of the plant; and, when it has done this, its duty has been performed, and the revenue collected under such rates is the property of the company, to do with as it seems best.

§ 1038. Maryland Commission.

*Bachrach v. Consolidated Gas, Electric Light and Power Company of Baltimore*²⁷ is a rate case. Although the Maryland Commission made a valuation of the property of the company, such valuation did not have a very important bearing on the conclusions reached. The Maryland law provides that so far as possible the Commission shall not disturb the value of the company's bonds. In the present case the rate fixed was based largely upon a consideration of the amount required to safeguard the value of the bonds. In regard to this subject, the Commission says (at pages 175-176):

Section 30 of the Public Service Commission Law clothes the Commission with power to ascertain the fair value of property of any corporation subject to the provisions of the act and used by it for the convenience of the public, and provides:

"Every such valuation shall be so made and ascertained by the Commission that as far as possible it shall not disturb the

²⁷ 14 A. T. & T. Co. Com. L. 154, January 13, 1913.

value of bonds of any of said corporations issued prior to this act."

This provision is peculiar to the Maryland law and has no counterpart in any law for the regulation of public service corporations that has come to our knowledge. It is a positive direction, binding upon the Commission. The opposing contentions are, upon the part of the complainants, that "what the legislature meant must have been not that the valuation but the rate of return should be such as not to disturb the payment of the interest"; and on the part of the company that "as far as possible" the value of the bonds as property shall not be disturbed.

The opinion of the General Counsel, to whom the question was referred, sustains the company's contention, and in this view we fully concur. In addition to what the General Counsel says it should be noted that the proviso is contained in the section of the law which provides for valuation alone, and could, therefore, have had no direct relation to either the rate of return or the rates for service.

Exactly what the expression "as far as possible" means is not altogether clear, but without undertaking to speculate upon possible constructions of it, it is safe to conclude that in the absence of a wide discrepancy between the ascertained value of the property and the par value of the bonds issued against it, indicating either a grossly depreciated condition or unconscionable financial operations, the bonds should be protected. In the cases supposed it might be that a rate for service high enough to take care of fixed charges would be so excessive as to make it impossible to protect the bonds without at the same time oppressing the public, and in that case the public interest would be paramount.

In the present case the practical question in this connection is, can we assume the par value of the bonds to be the value of the property and establish a rate of return which will provide for the legitimate needs of the company and at the same time be reasonable to the public? Or (to reverse the proposition), can we take the ascertained value of the property and establish rates for service which will be just to the public and at the same

time provide for the legitimate needs of the company? This is the problem for the Commission to solve.

In the Matter of the Application of the Consolidated Gas, Electric Light and Power Company of Baltimore for authority to issue \$1,500,000 of common stock,²⁸ the Public Service Commission of Maryland, in a decision dated April 24, 1912, takes occasion to state that the approval of an issue of securities by the Commission does not guarantee that the company is not overcapitalized. This statement was made in view of an objection to an approval of the proposed issue on the ground that the company was already overcapitalized and that the Commission's approval of the new issue would have an injurious effect on the rights of the consumers in a rate proceeding then pending. The Commission, however, says (at pages 104-105):

It further appears to the Commission that upon applications to the Commission by public service corporations for leave to issue securities, the material question to be determined by the Commission is simply whether the desired issue of securities is necessary for one of the corporate purposes specified in section 27 of chapter 180 of the acts of the General Assembly of Maryland of the year 1910, commonly known as the Public Service Commission Law, that purchasers are bound to know that there is such a law in force in this state, that there is such a commission as the Commission, empowered and obliged to enforce it and that the Commission has the jurisdiction and authority under its terms to fix and alter from time to time the rates and charges of all public service corporations in this state, and that therefore all purchasers of securities approved by this Commission, whether issued by the said company or any other public service corporation in this state, take the same subject to the risk of the rates of the corporations by which the same are issued being fixed by the Commission with due regard,

²⁸ 3 Md. P. S. C. R. 104, April 24, 1912.

among other things, to the question as to whether the capitalizations of such corporations are unwarrantably inflated.

The Commission makes a similar statement in its approval of the proposed sale by the Diamond State Telephone Company of its property to the Chesapeake and Potomac Telephone Company of Baltimore City, decided July 10, 1912. The Commission says (at page 222): ²⁹

We have no appraisal of the property of the Diamond State Telephone Company located in Maryland; but we do not deem it essential in determining the present matter, which is, after all, but the transfer of properties from one to another of the constituent companies of the Bell Telephone System; and the book values will have no more bearing upon the question of rates under the new arrangement than they would have had under the old. Nor is the Commission to be understood as approving the consideration expressed in the agreement of sale and purchase as determining the physical value of the properties involved in the transaction.

And again in conclusion the Commission states that in its opinion the proposed sale will not injuriously affect the interests of the subscribers of the Diamond State Telephone Company, "especially as the Commission reserves for future consideration and investigation all questions of physical and going values and all other features of the company's affairs which may affect the rates upon the Eastern Shore."

§ 1039. Minnesota Supreme Court, 1897.

The case of *Steenerson v. Great Northern Railway Company* ³⁰ involves the valuation of a railroad for rate purposes. Judge Cauty, in delivering the opinion of the court, says (at page 715):

²⁹ 3 Md. P. S. C. R. 219, July 10, 1912.

³⁰ 69 Minn. 353, 72 N. W. 713, October 20, 1897.

Again, in determining what are reasonable rates, it is perfectly immaterial whether the railroad is mortgaged for two or three times what it would cost to reproduce it, or whether it is free from incumbrance. To hold otherwise would be to hold that the state or the public have indirectly guaranteed the payment of the mortgage bonds of every railroad. The state may as well guarantee the bonds directly as indirectly. But neither the state nor the public have done either the one or the other. It is immaterial how the property has been split up into different rights, interests, and claims. For the purpose of fixing rates, the holders of all of these stand in the shoes of the sole owner of the property, unincumbered. The rights of the bondholders are no more and no less sacred than the rights of such an owner.

§ 1040. New York Commission, Second District.

*Fuhrmann v. Buffalo General Electric Company*³¹ involves the valuation of an electric plant for rate purposes. In this case Chairman Stevens in delivering the opinion of the Commission states that capitalization does not necessarily bear any relation to fair value for rate purposes. He says (at pages 767, 768-769):

The certificates of stock issued to the shareholder do not in the least determine the fair value of the investment. They are not a measure of the efficient sacrifice made. They are mere title deeds, as it were, to the investment. There can not be a just return upon both the investment and the piece of paper which shows title to the investment. The function of the stock is not to determine how much the public shall pay, but how what the public has paid shall be divided among the shareholders. The value of the stock is not determined by the figures printed upon the certificates, but by the amount it receives upon a division of what the public pays. The value is rarely par. If the stock receives a large sum as dividends, the value rises; if a small sum, the value falls.

³¹ 3 P. S. C. 2d D. (N. Y.) 739, 18 A. T. & T. Co. Com. L. 1094, April 2, 1913.

If the amount the public should pay for the service were to be determined by the amount of stock issued, the result would be that the body having the power to determine the amount of stock would fix the return, and all consideration of the fair value of the investment used in the public service would go for naught. A stock dividend of say 100 per cent. doubles the amount of the stock, but has no proper effect upon the rate the public pays. Such dividend neither increases nor diminishes the fair value of the property used in serving the public. It merely rearranges as between the shareholders the form and number of the pieces of paper showing their rights between themselves to the net earnings and to the property itself if ever divided among them. . . .

There has grown up, for some reason, a very peculiar and illogical notion with reference to the protection of so-called innocent investors in the stock of a public service corporation which deserves a little attention at this point.

The underlying conception upon which this notion is based is that the return the public is to pay is based upon the amount of stock and not upon the amount of the investment: that it should be reckoned upon the figures printed upon the title deed to the property rather than upon the value of the property itself. There is no law justifying any such view, and certainly no equity or justice. Once it is clearly apprehended that a person buying stock in such a corporation is buying only a right to a certain proportion of the dividends, the confusion disappears and the whole matter is put upon a just basis. The amount of the dividends depends wholly upon the business success of the corporation, and no one pretends that there is any principle justifying an exaction from the public of more than a fair return upon the value of the property used in the public service.

If a purchaser is foolish enough to pay more for the stock of such corporation than would be justified by the reasonable amount of dividends, there is no principle of equity which requires that the loss should be borne by the public, but every principle of equity and law requires that it should be borne by the person making the investment. No one at the present

time, in any careful consideration of the subject, attempts to maintain that the public should pay a return upon the stock. Every one concedes that the return should be upon the investment; and yet from time to time we are met with a plea to protect the stock which is the title deed and disregard the investment which is the matter of substance.

§ 1041. Nebraska Commission.

Re Application of Lincoln Telephone and Telegraph Company for authority to increase rates ⁸² involves the valuation of a telephone plant for rate purposes by the Nebraska State Railway Commission. The Commission holds that existing capitalization need not be considered in an estimate of fair value for rate purposes. The Commission says (at pages 149–150):

The outstanding stocks and bonds of a corporation which were issued prior to regulation, whether the same express the actual value of the plant, or whether they are in excess, or are for a less amount than the real value, have only collaterally any effect, and are not necessarily taken into consideration in the matter of making rates for the future, and when so treated it will be readily seen that any question of overcapitalization in the past is absolutely eliminated and need not enter into the problem.

Stocks and bonds are in fact not certificates which will determine or designate the rate that a corporation shall charge, or that will necessarily determine the rate of return which the corporation shall be permitted to earn, but are in fact merely certificates designating the ratio of ownership in the plant and reciting the ratio in which the profits above actual operating expenses may be divided among the holders.

The bond itself as to principal is merely a mortgage in most cases and proclaims that at a certain definitely fixed date the corporation will pay back to the holder thereof a certain amount, or in case of dissolution that the holder shall first be reimbursed

⁸² 19 A. T. & T. Co. Com. L. 134, June 26, 1913, Nebraska State Railway Commission.

in the principal sum before any distribution is made between holders of other securities. As to the interest, such a bond promises first to the holder a definite sum at specified dates and that such interest shall be paid before any dividend is declared to the stockholders, whose claims are always secondary. . . .

As a net result, the only value that the certificate of stock really has, regardless of the amount written in, whether it be \$1.00 or \$100.00 face value, is nothing other than a determination of the ratio of ownership and the ratio in which the holder shall have a right to net profits, if there be any.

In the matter of the application of the Omaha, Lincoln and Beatrice Railway Company for authority to issue \$2,250,000 of bonds and \$850,000 of stock, decided February 25, 1913, the Commission points out that the rule of caveat emptor applies to purchasers of securities authorized by the Commission. Such purchasers are not exempt from the business risks involved in the possibility of the corporation issuing the securities being overcapitalized. The Commission quotes with apparent approval from the decision of the New Hampshire Commission in the matter of the petition of the Milford Light and Power Company, decided December 30, 1911, in which the New Hampshire Commission states that an approval of securities does not constitute a guaranty in any way that rates may be charged to enable the company to pay dividends at any given rate upon such securities and that whenever the Commission is called upon to exercise its rate-making power its action will be controlled by the amount of money shown to have actually been invested and the fair value of the property regardless of the amount of securities outstanding.

§ 1042. St. Louis Commission.

The St. Louis Public Service Commission in an investigation of the United Railways Company of St. Louis found

that the company had a capitalization of \$101,380,300 and that the fair value of its property liberally estimated and including no deduction for accrued depreciation was about \$37,638,000. Of the capitalization approximately \$42,000,000 was in stock and \$59,000,000 in bonds. The capitalization of the company was equal to \$219,914 per mile of single track. Of the 461 miles of single track, 110 miles were suburban construction. Moreover, the company bought approximately 45 per cent of its power, thus reducing the necessary investment in generating plants. The Commission discusses the question of overcapitalization as follows (pages 8-9):²³

The evil arising from the overcapitalization of public utilities is one of the greatest to be contended with in their proper regulation. Not only is the creation of "water" in securities against the spirit and letter of the laws of the state, but in the case of public service companies it is bound ultimately to perpetrate wrong either against the purchasers of the securities or against the consuming public.

It appears to be a sound principle of regulation that the public, in return for special privileges granted, should be required to pay to the public service companies a reasonable return only upon the capital actually devoted to the public service, and the right to earn on inflated capital should be denied.

It is much to be regretted that in many instances the creators and exploiters of inflated values in public utilities have been able to profit by the sale of securities at prices above the amounts actually devoted to the public service, and thus to transfer the consequences of just regulation to individuals who are generally called the "innocent investors." The term "innocent investor" is not always suitable to the buyers of "watered" securities. The laws of this state and of many other states, and the rulings of the courts in valuation and regulation cases, are plain notice that fictitious values can not be recognized

²³ Report on the United Railways Company of St. Louis by the St. Louis Public Service Commission, November 19, 1912.

in public utilities corporations, and the investor who from ignorance of the wrong attempted against the public or from motives of mere speculation buys watered securities can not justly expect the public to assume losses which are the result of ignorance or desire for speculative gain.

It is claimed by some financiers that capital could not be obtained for public service enterprises without the device of "watered" securities. This may have been partially true, but if so it was due largely to the fact that the very risks created by speculative financiering prevented the entrance into the enterprises of any but speculative capital which would take large risks and demand the opportunity for large speculative profits.

The extravagance and wastefulness of overcapitalization can be seen immediately by taking the example of a company which has issued security obligations in excess of its real assets and then is obliged to obtain more capital for extensions, betterments or replacements. By its former issues the credit of the company is impaired and the new issues if sold at all must be marketed at an extravagant discount.

It can not reasonably be claimed in such a situation that the consequences of the evils created by speculation in "franchise values" (see page 42) and the hope of exploiting the public should be assumed by the public.

In an advertisement printed in the daily newspapers of St. Louis, the United Railways Company of that city takes the ground that securities once issued must now be recognized regardless of the present value of the property. It threatens the public with the evil results that may follow insolvency and reorganization unless this overcapitalization is recognized. The following is from the advertisement of the company:³⁴

The present mortgage debt of the United Railways is in round numbers \$59,000,000. This mortgage debt has been legally issued, is outstanding in the hands of the investing public, and must be recognized by the company. Any indebtedness now

³⁴ Quoted in the *Electric Railway Journal*, April 12, 1913, page 688.

created by the company must be subject to this mortgage debt. The Public Service Commission has reported the value of the property of the company to be only (in round figures) \$38,000,000, or \$21,000,000 less than the mortgage debt. . . .

This company does not concede the correctness of the Commission's valuation of its property. Nevertheless, the valuation of the Commission has impaired the credit of the company and depreciated its securities in the hands of investors. It is idle to say now that the company is overcapitalized. It has issued its securities and they are now in the hands of the public. It must pay or repudiate its obligations. If it repudiates them, all the consequences of insolvency must follow.

§ 1043. Wisconsin Commission.

The case of *City of Milwaukee v. The Milwaukee Electric Railway and Light Company* involves the valuation of a street railway for rate purposes. The Commission issued an order slightly reducing the existing rates of charge. In regard to capitalization as an element in fixing fair value for rate purposes, the Commission says (at page 84): ³⁵

It is well known from experience that public utilities are mostly overcapitalized, and that the par value of their outstanding securities usually exceeds the actual investment in the property that is used and useful in connection with the services they render to the public. In fact, the bonds alone often amount to more than the cost value of this property. The reasons for this are easily explained. They are found in the fact that in capitalizing the plants, whether for the purposes of consolidation or otherwise, securities are often issued not only against actual and other costs, but against estimated monopoly profits, future increases in the business, estimated savings in expenses, and many other elements of this nature. Not only this, but investigators of such matters feel that the greater proportions of the consolidation of business interests during the past three decades have had their sources in the opportunities for private

³⁵ 11 W. R. C. R. 1, 14 A. T. & T. Co. Com. L. 197, August 23, 1912.

gains that were offered to insiders in connection therewith, through unlimited security issues and the rigging of the markets by which these securities were unloaded upon the public at prices that netted such insiders large profits. In the public utility field, where monopolistic conditions largely obtain, the opportunities for such practices have been relatively large. That security issues, based on such conditions, can not often fairly measure either actual investments in, or fair value of, the property they represent is rather obvious. It is equally clear that excessive capital issues of this sort can not ordinarily constitute a fair and equitable basis for the valuation upon which the rates charged for the services rendered to the public should be fixed.

CHAPTER III

Market Value and Earning Power as Related to Fair Value for Rate Purposes

§ 1050. Competition and monopoly value in railroad appraisals.

1051. The misplaced or partially obsolete plant.

1052. Purchase price as evidence of fair value—New Hampshire Commission.

• § 1050. Competition and monopoly value in railroad appraisals.

The claim that the value of the favorably located railroad should be given a value based on its earning power under rates sufficiently high to enable less favorably situated roads to compete at a profit is discussed in §§ 53–57.

In both the Missouri Rate Cases ¹ and the Minnesota Rate Cases ² the Supreme Court of the United States takes the position that a railroad rate can not be held confiscatory by the court on the ground that if this rate were applied to a competing line the competing line would not be able to earn a fair return on the fair value of its property. The court holds that if a rate is fair as regards a particular company it will be upheld as to that company. In the Missouri Rate Cases the court held that the rates in question were valid as to certain companies and confiscatory as to other companies. The contention of the complainants that the rates could not be enforced against one company unless enforced against all was not sustained. Justice Hughes in delivering the opinion of the court says (at pages 508–509):

¹ 230 U. S. 474, 33 Sup. Ct. 975, June 16, 1913.

² 230 U. S. 352, 33 Sup. Ct. 729, June 9, 1913.

The contention raised by the complainants, that these legislative acts can not be enforced against one company unless enforced against all, can not be sustained. The argument, in effect, is that although the charges of carriers may be clearly exorbitant, the state is powerless to compel them to put into effect reasonable rates because as to another carrier differently situated the rates thus prescribed might be unreasonably low. The acts are valid upon their face as a proper exercise of governmental authority in the establishment of reasonable rates, and each complainant in order to succeed in assailing them must show that as to it the rates are confiscatory.

§ 1051. The misplaced or partially obsolete plant.

The New Hampshire Public Service Commission in its report on an investigation of railroad rates, although holding that in general fair value for rate purposes should be governed more by actual cost than by reproduction cost, states that in the case of poorly located roads the value for rate purposes should be less than full actual cost. The Commission says (at page 331):³

Some of the New Hampshire roads from a business point of view were ill-advised. They never have paid and probably never will pay a return upon the money invested in them. Clearly the money so invested was in great part lost, and the roads in question can not now be valued for rate purposes at their full cost, and returns be earned thereon by the collection of excessive rates upon other roads which do pay.

For a further discussion of the valuation of the misplaced or partially obsolete plant, see § 58.

§ 1052. Purchase price as evidence of fair value—New Hampshire Commission.

Petitions of Grafton County Electric Light and Power Company⁴ is a case coming before the New Hampshire

³ Report of the Public Service Commission of New Hampshire on an investigation of railroad rates, November 30, 1912, 377 pages.

⁴ 28 A. T. & T. Co. Com. L. 533, February 3, 1914.

Public Service Commission, and involves an authorization to purchase certain property and to issue securities therefor. Though a capitalization case the Commission holds that in general a proper capitalization is to be determined by the same rules as used in fixing fair value for rate purposes. On account of the excessive price at which it was proposed to transfer and capitalize the properties the Commission denied the application for such transfer. The Commission criticizes there production method as a sole or controlling method of determining fair value, and states that it is hopeful that when the basis of valuation is finally and definitely established "it will be universally recognized that if a public utility is assured a fair return on the outlay actually made by it in order that it may serve the public—assuming, of course, reasonable prudence in investment and honesty and efficiency in operation—it has received all to which it is entitled." In the present case, however, the Commission had the price at which the property had been sold to its present owners under conditions which gave assurance that a fair price was obtained by the vendors. The Commission held that the price paid at such a sale is of evidentiary importance in determining fair present value. The Commission held, however, that the relation which the value of a plant as a unit bears to the value of its component elements differs widely from a like aggregation of equivalent elements held in strictly private ownership. The Commission says (at pages 552–555):

Public service corporations, in return for the special privileges conferred upon them—public franchises, the power of eminent domain, now given to all such utilities in this state, and the virtual assurance of a monopoly—are subject to certain important disabilities, constituting substantial and serious incumbrances on their property.

They can not transfer their business to whom they will, on

such terms as may be agreed upon. They can sell only to purchasers and upon terms approved by the Commission. How serious an incumbrance this may be is illustrated by the Berlin case, where a purchaser was willing to pay \$172,000 for property which the owner was finally content to sell under an order of the Commission limiting the transfer price to \$74,174.53.

They can not capitalize their properties at such figure as they desire, and could perhaps justify in court as not sufficiently unreasonable to subject them to individual liability under our general corporation laws. And their stock and bonds, when issued, must be sold in such manner and on such terms as the Commission may prescribe.

And, more important than all the rest, they can not charge for the service rendered "all the traffic will bear," but are strictly limited to a reasonable return upon the fair value of their property devoted to the public service.

Add to all this the necessity of keeping accounts in a form prescribed by the Commission, and open to inspection, the requirement of making returns showing the precise state of their affairs in minute detail, and constant supervision and regulation of service and equipment, and it is evident that the "circumstances" which must be taken into account in fixing the fair value of a public utility are such as profoundly to modify any conclusion reached by the simple process of adding together the values of the various items of its property, separately appraised. The ascertainment of the value of such a plant is not the reaching of a definite conclusion by simple mathematical processes. It is rather the forming of a judgment, generally approximate at best, from considering and weighing a great variety of countervailing facts and circumstances.

As tending to sum up and give expression to the various elements of value which must be considered, it is desirable to know, if possible, what will be paid for such a property, privileged and encumbered as it is, in a perfectly free and fair trade between two parties willing to buy and sell, but acting under no compulsion or extraordinary incentive—the owner not willing to sell for less than the property is worth, and the buyer not willing to give more.

In this case we have evidence of the most significant character tending to show what the properties proposed to be transferred would actually bring if sold under the circumstances above suggested. For in 1912 Mr. Streeter purchased the stock and bonds representing the entire ownership of these properties for a net price of \$152,015.54. . . .

The price finally agreed upon represents a composite judgment of the highest evidentiary importance as to the fair present value of these properties. In this price are summed up and given their due weight all the facts and circumstances entitled to consideration in determining that value—original investment, cost of reproduction, new and less depreciation, earning power (whether legally entitled to consideration, or not), capitalization, and all the advantages and disadvantages involved in being a public utility under the laws of New Hampshire.

If the question is, what is the exchange value of a piece of property, the best possible evidence is a recent sale under such conditions as will give assurance that a fair price was obtained. If we wish to know how far a man can jump, we can have him examined by physical experts, and make various tests of the power of the muscles involved in the feat of jumping, and from all the evidence so obtained make an estimate as to his probable jumping ability. But the best way would be to take him out and let him jump—and measure the jump. In this case, the man has jumped. And estimates as to the probabilities become comparatively inconsequential in the face of the accomplished feat.

CHAPTER IV

Cost of Reproduction as an Element in Fair Value for Rate Purposes

§ 1060. Federal Court in Alabama railroad rate cases.

1061. Nebraska Commission.

1062. Difficulties of reproduction method—Maryland Commission.

1063. Difficulties of reproduction method—New York Commission, Second District.

1064. Actual cost used to test reproduction estimate—New Jersey Commission.

1065. Plant construction under boom conditions—Nevada Commission.

1066. Criticism of reproduction method—New Hampshire Commission.

§ 1060. Federal Court in Alabama railroad rate cases.

Louisville and Nashville Railroad Company *v.* Railroad Commission of Alabama ¹ is one of three cases referred by the Court to W. A. Gunter as special master. The special master made extensive reports, holding the proposed rates confiscatory, and these reports were approved by District Judge Jones in a single opinion covering the three cases. The value found was based on cost-of-reproduction-less-depreciation. Judge Jones takes strong ground in favor of cost-of-reproduction rather than original cost, as the most reliable basis for determining fair value. He says (at page 820):

In reference to the question of value with the view of rate regulation, the most reliable test ordinarily is the cost of the reproduction of the road as it exists. I say "ordinarily," because there may be instances, which is not the case here, where by reason of paralleling the road by a new road, and diverting its business or from other causes, its value may be far less than what it will cost to reproduce it as it is at the time of the inquiry. The original cost of a road may in some cases reflect light on,

¹ 196 Fed. 800, April 5, 1912.

or even determine, the present value, as when it is of very recent construction. But ordinarily it is of little assistance in that regard, since many items of value may be donations by the government or by individuals, as is the case of the South & North, or the road may have been built long before the period of inquiry at greatly less or greatly higher prices than those prevailing at the time of the inquiry. Or its original cost might be involved in obscurity, and may include the cost of abandoned or destroyed portions of the property, which should not figure in the inventory for the present time, or the road may have been bought at a forced sale in times of panic at a nominal price or in inflated times at a corresponding price; or the road, costing little originally, may have developed from many contributing causes into being property of great value. And in every case, after finding the original cost, when possible to be done, the question would still have to be solved as to whether such original cost is the same as the present value, which would involve the determination of the present value for such comparison independent of original cost, and in no other or better way than on reproduction values.

Reproduction cost as a standard of value is stated in an extreme form by Special Master W. A. Gunter in his report in one of the above mentioned cases. He says (at pages 48-49): ²

It is plain, then, it seems, that the cost to reproduce such a road for the purpose of rate making on its value must be a reproduction of the identical road, with every one of its surroundings and advantages. We are not concerned about the construction cost of a similar road in an uninhabited country, or one along the line of the South & North as it was fifty years ago, but it is the cost really of buying the road in question at such capitalization as would exactly equal the sum of the elements of value it has, including its franchise. All the structures,

²South & North Alabama Railroad Company v. Railroad Commission of Alabama, United States Circuit Court, Middle District of Alabama, Report of William A. Gunter, Special Master in Chancery, 1911.

in the imagination, are momentarily obliterated for the whole, or by sections of the line, and the question is, what would it cost to buy the right of way, or a right of way adjacent and equally adapted to connect the operating sections, or the whole line to succeed to the business already established? Or the question might be, what would a parallel and adjacent right of way cost for a road which as constructed is to become a part of the present line and is to succeed to all the rights and business of the old road, which is to become non-existent in fact on the finishing of the new line? The reproduction cost of the viaduct under the Hudson for the Pennsylvania Railroad would, in one form or another, besides actual building cost, comprehend the proportion of value of the business of the whole road represented by the capital invested in it. And similarly the reproduction cost of any road must include every element of value attached at the moment of the inquiry to the right of way under investigation.

§ 1061. Nebraska Commission.

Re Application of Lincoln Telephone and Telegraph Company for authority to increase rates³ involves the valuation of a telephone plant for rate purposes by the Nebraska State Railway Commission. The Commission used reproduction cost as the general basis for the determination of fair value in this case. It states that book value is of no importance in the present case, inasmuch as it is not the result of the application of correct accounting principles. The Commission holds that objections to reproduction cost are based largely on incorrect conceptions as to the effect of this method. The Commission states, however, that reproduction cost having now been determined, it will serve as a starting point for future valuations, but that such valuations will not be determined by making a new physical valuation, but by making the necessary readjustments on the basis of actual cost of

³ 19 A. T. & T. Co. Com. L. 134, June 26, 1913, Nebraska State Railway Commission.

subsequent additions and betterments. The Commission says (at pages 147-149):

Much confusion exists in the minds of a large part of the public with regard to the purposes and the reasons for making physical valuations and applying the results in a more or less modified degree in rate-making cases. One of the principal objections frequently put forward is that any physical valuation does not necessarily disclose the actual cost to the investor of the plant under consideration. This, of course, it will be conceded may be true in some cases. Another objection frequently made is that such physical valuation almost invariably shows greater value than actual costs, because it includes labor costs at the present-day rate, which are concededly somewhat higher than they were eight to twelve years ago. This must also be conceded, although it is not so positive a matter as the preceding, but it is noticed that in most of the arguments put forward only the one side of the problem is, as a rule, considered, and it will be found that these advances are frequently overcome, or at least met in part, by reason of the fact that while higher rates for labor may be applied, concurrently, there are also applied lower unit costs in many of the component parts of the plant by reason of the fact that much of the material is now cheaper than it was in the same corresponding period referred to in the labor item. This is especially true as regards cable and copper wire, which forms a large percentage of the total value of the plant under consideration. . . .

It is the interpretation of this Commission that the reason for adopting this plan of arriving at present values is because in a very large percentage of the public utilities, applying especially to the older companies, it is impossible to reach the actual cost from an examination of the books, for various reasons. One of the principal reasons arises because of the varying policies pursued by the different corporations in the matter of charging additions and betterments, and in the matter of treating replacement and construction accounts; in all of which that have heretofore been examined it has developed that because of the lack of uniform accounting systems each corpo-

ration has set up its own policies and theories, which seldom conform to the present accepted theories of setting up these accounts. A further reason is because prior to regulation many of the corporations paid little attention to the actual values in the issues of stocks and bonds, and in such cases it would be absolutely impossible to trace out all the intermediate steps and manipulations and reach a correct result.

The suspicion held on the part of some that physical valuations will be newly made at each controversy or hearing that may come up in regard to any particular plant is also unfounded under the interpretation placed upon the law by this Commission. Practically concurrent with the enactment of the laws regarding the making of physical valuations in this and other jurisdictions, as well as by the federal government, there were promulgated accounting systems, which will make impossible any manipulations that may have been practiced in the past, and will set out definitely by sharp lines of demarcation the differences between construction, betterments, maintenance, depreciation, and operating expenses. The physical valuation is, in fact, made for the purpose of reaching a definite starting point which will be equitable as between companies and the public, and in case any controversies arise in the future which shall make it necessary to know at the time the value of the plant, the physical valuation first taken under the authority of these laws will be used as the foundation, and never deviated from, it being merely necessary to add the definitely set up additions and betterments, after deducting plant abandoned or no longer used for the service of the public, to find the then actual value of the plant.

§ 1062. Difficulties of reproduction method—Maryland Commission.

*Bachrach v. Consolidated Gas, Electric Light and Power Company of Baltimore*⁴ is a rate case. Although the Commission made a valuation of the property of the company, such valuation did not have a very important

⁴ 14 A. T. & T. Co. Com. L. 154, January 13, 1913, Maryland Public Service Commission.

bearing on the conclusions reached. The Maryland law provides that so far as possible the Commission shall not disturb the value of the company's bonds. In the present case the rate fixed was based largely upon a consideration of the amount required to safeguard the value of the bonds.

The Commission points out the difficulties of the reproduction method, referring to the great variation in the estimates made by expert appraisers, to the hypothetical conditions assumed and to the danger of duplication in the allowances. "Conclusions based upon the findings of contending expert appraisers alone would be little better than a guess at the true value of a given property." The Commission says (at pages 168-169):

The cost-of-reproduction-new of the company's plant is one of the tests of fair value applied by the Supreme Court in the much overworked case of *Smyth v. Ames* (169 U. S. 466), which is itself by no means so free from obscurity as to be an infallible guide in rate cases. The fact is that appraisals of this kind are of comparatively recent origin, and have been, to some extent at least, the outgrowth of public regulation, and practically nothing has been done to establish a method or plan upon which they shall be made. The results derived from them depend largely upon the point of view, the training, the economic education and preconceived notions of the appraisers and the purpose to be accomplished by their work. They have a value as checks upon the information derived from other sources, but it is safe to say that in large and complicated matters, such as we are dealing with here, conclusions based upon the findings of contending expert appraisers alone would be little better than a guess at the true value of a given property. In this case we have extreme views upon both sides, each, no doubt, honestly arrived at, and both, certainly, adroitly maintained. If estimates of the cost-of-reproduction-new are to be a feature of investigations made by regulating bodies, those bodies must, in order to accomplish satisfactory results, establish some sort of standard along the lines of rules for uniform accounting, as

guides in making such estimates. The formulation of such a standard presents many difficulties, and an inflexible rule as to details is impracticable; but such matters as contractors' and sub-contractors' profits, promotion, discount on securities and overhead charges generally, about which usually the fiercest contest is waged, may well engage the serious attention of commissions as a step toward the saving both of time and money—to say nothing of vexation—expended in investigations.

The Ford, Bacon & Davis estimate of the cost-of-reproduction-new is, of course, based upon the conditions that exist to-day, except that it supposes Baltimore to be without gas and electric plants, and, therefore, provides for contingencies which might be encountered in an entirely new field, which experiences elsewhere suggest as proper matters to guard against. The conditions under which the supposed new plants are assumed to be constructed never did exist and, in all probability, never will exist in any city of the size and importance of Baltimore. The inventory leaves nothing to be desired in matters of detail, but we are led to believe from the testimony that in pricing the inventory of the company's books was relied upon to a considerable extent, and that incidentals, contractors' profits, etc., were included in the book costs upon which overhead charges were duplicated, thus largely increasing the final figures.

§ 1063. Difficulties of reproduction method—New York Commission, Second District.

In *Buffalo Gas Company v. City of Buffalo*⁵ the company asked the New York Public Service Commission for the Second District to fix a rate for gas supplied to the City of Buffalo.

In this case the Commission holds that fair value for rate purposes may not be based upon either original cost or reproduction cost, but upon a consideration of these and many other factors. The Commission was not able to determine for the purposes of this case either reproduction

⁵ 3 P. S. C. 2d D. (N. Y.) 553, 23 A. T. & T. Co. Com. L. 244, February 4, 1913.

cost or original cost with any fair degree of accuracy. In regard to the difficulties of determining reproduction cost, Chairman Stevens says (at pages 633-634):

An objection to this theory is the practical impossibility in many cases of ascertaining with any reasonable degree of accuracy the cost-of-reproduction-new. The cost-of-reproduction-new depends upon a large number of uncertain and variable factors. It depends upon the efficiency of labor, the cost of materials, the wisdom and judgment of the superintendents, weather conditions obtaining during the process of construction, unforeseen delays from accidents which may and will arise in every case, and upon special conditions which can not be known or foreseen in large numbers of cases. One special condition which it is impossible to determine in this case is the character of the soil in which pipes must be laid. This character of soil necessarily affects, as has been shown, to a very large extent the total cost of reproduction, and the differences would amount to a very large sum, as has been shown by the figures which are given. Estimates of engineers, estimates of contractors, and actual experience afford no criteria by which the cost-of-reproduction-new can be determined in many cases, since none of them can possibly take into consideration all of the factors which would influence such cost.

Another element in the case of reproduction-new which is exceedingly variable is the cost of materials. It is difficult to take proper account of such fluctuations and apply them justly and equitably in any given case. As has been shown, the price of cast-iron pipe for mains fluctuates enormously. The price in one year is rarely the price in either the preceding or succeeding year. A valuation made in the case of this company in 1907 would produce vastly different results from a valuation made in 1912, owing to the different prices of pipe, and yet there can scarcely be any disagreement upon the proposition that the price of gas in 1907 and 1912 should be substantially the same. A condition of things which permits the public to appeal to this Commission to fix the rate in times of financial distress, when materials are low and labor is cheap, and thereby

obtain a low rate which shall obtain permanently or substantially so; and on the other hand, which permits the company to appeal to the Commission to fix a rate in times when labor is high and materials are dear, and thereby to fix a higher rate to continue with substantial permanency, is intolerable. If this Commission were to fix the price of iron pipe upon the prices now prevailing, next year they may be 50 per cent higher. Justice would require that the rate go up if the cost-of-reproduction-new is to prevail; while, on the other hand, if pipe gets lower the rates should be lower. This would require a constant juggling with prices in order to carry out what would be deemed substantial justice.

The third objection to the cost-of-reproduction-new is that it calls for the reproduction of an article which, it might be said, nobody would ever reproduce. It would demand the valuing of obsolescent machinery and appliances. A prospective purchaser of a property, in determining what he could afford to pay for it, obviously would not take into account so much the cost of reproducing the property as the cost of reproducing the service. New inventions and new improvements might make it possible for the prospective purchaser to produce a plant which would render precisely the same service at one-half the cost which would be required to reproduce new a plant which would duplicate the existing plant.

In regard to the difficulties of determining overhead percentages, Chairman Stevens says (at pages 637-638):

Another consideration against the application of this theory is that it requires the use of certain percentages for engineering, superintendence, and the like, which are purely theoretical as applied to the existing plant for the reason that they were never incurred by the company. If a new plant were to be constructed as an entirety, and all to be put in operation on a given day, it is unquestionable that there would be engineering charges and superintendence charges which would necessarily be reckoned as a part of the cost. We need not pause to consider whether there should be a percentage allowed for this, or whether

there should be an attempt made to ascertain the actual cost of considering the number of engineers and superintendents and their probable salary, or whether some other method of reaching a conclusion as to the cost should be taken. The fact remains that in this case there is no claim that in all the extensions and improvements which have been undertaken for years there has been any such charge made to or paid by the company. All the cost of engineering and superintendence, so far as it is disclosed to us, has been taken care of in precisely the way that it is usually taken care of by an existing company; namely, the engineers and superintendents have been employees of the company upon a salary, and the salary has been charged to operating expenses, and the operating expenses have been paid by the public. The plant of the Buffalo Gas Company is a growth. It had a small beginning in 1848, and has grown with the growth of the city. A few miles of mains have been laid each year, and probably there have been but very few years in the past sixty in which there has not been an extension of the mains. All of this has been done presumptively under the direction and superintendence of necessary employees of the company who have been paid their salaries which have been charged to operating expenses, and therefore the public has paid for this engineering and superintendence. Upon the theory claimed by the company in this case, the engineering and superintendence amounts to hundreds of thousands of dollars. To assume that the sum, whatever it may be, is something upon which the company is entitled to a 6 per cent return is to assume a thing which is unjust and unreasonable in the extreme. It would make the public in Buffalo pay a return in perpetuity for that which has already been paid for by previous consumers.

Chairman Stevens discusses at length the difficulty of determining proper unit prices under the reproduction method. He states that the evidence does not afford any reasonable basis for the determination of the cost of the mains of the company. The character of the soil through which the mains were laid was unknown. Under

such circumstances any estimate would be a mere guess. Chairman Stevens says (at pages 584, 614, 615-616):

These findings as to reproduction costs are subject to the same criticism as that upon the reproduction cost of street mains hereinafter discussed, namely, that the unit prices are of such a character that no particular sum within a range of 25 per cent can be called more than a guess. The Commission could easily and upon evidence place the cost higher or lower than here found by it, and the fixing of the cost must not be regarded in any other light than that the Commission deems it probable that the sums named by it are as reasonable as any other within a range of variation of at least 25 per cent. We do not believe that any person can justly say such allowance approximates more nearly to the reproduction cost than the percentage named. . . .

In the case of many articles, unit prices are easily ascertainable. In the case of many other articles, and in the case of labor costs, as is shown above, they are extremely uncertain and produce results which are so discordant as to be amazing. . . .

The foregoing discussion discloses that neither the evidence in the case nor the outside investigations undertaken by the Commission, nor both together, can afford any reasonable or satisfactory solution of what the actual reproduction cost of these mains would be. Any attempt to fix the same would not rise above the dignity of a guess, and that guess would be clouded and confused by the evidence before us. The Commission must decline to make such a guess. It has no evidence as to the general character and conditions of the soil to be encountered in making excavations; there is nothing to show how much clay, how much loam, how much hardpan, how much rock, how much gravel, would be encountered in the laying of 411 miles of pipe; there is nothing showing what the cost of labor would be. No engineer sworn before us knows anything about the conditions to be encountered of soil or obstructions in the streets. The actual costs referred to by the engineers sworn in the case are costs incurred under conditions which may or may not be the same as those in the streets of Buffalo. Actual costs when ob-

tained in other cities are practically as discrepant as the estimates of engineers; and in fact it must be that actual costs are discrepant to a great degree, since the estimates of engineers are necessarily based upon actual costs which have come within their experience and observation. All of the engineers whose estimates are given are straightforward, competent men, and they had a right to rely upon their experience. Their experiences have varied, and what the experience would be in relaying 411 miles of pipe in the city of Buffalo under various conditions of traffic, soil, and obstructions under the surface of the soil, no man knows or can know within a variation of hundreds of thousands of dollars. For these reasons, the Commission is unable to find definitely what the fair and reasonable reproduction cost of these mains would be.

The difficulties of the reproduction method are also discussed in *Fuhrmann v. Cataract Power and Conduit Company*.⁶ Chairman Stevens says (at pages 684-685, 688-689):

This method of ascertaining the fair amount of the investment, although it has been treated with great favor, is also subject to severe criticism. The first arises from the practical impossibility of ascertaining with any reasonable degree of accuracy the cost-of-reproduction-new. This impossibility has been demonstrated in most attempts which are made. Engineers differ widely in their results, and this when their professional standing and integrity are in every respect equal. Most classes of work involve great difficulties in ascertaining the just unit prices, the amount and efficiency of the labor involved, the skill and push of the superintendents, the proper economies which may be practiced, the unforeseen delays and accidents. To provide against all possibilities of any character which may enhance expense, the experience of the engineer is usually dragged to its depths, his researches into the experience of others are pushed to the uttermost. The result is that every work is charged with every expense, usually upon a percentage basis,

⁶3 P. S. C. 2d D. (N. Y.) 656, 18 A. T. & T. Co. Com. L. 1015, April 2, 1913.

which has ever been found to be attached under any conditions to work of the character under inquiry. The result is inevitable. It is rare that all of the alleged expenses are found in any given work, and the resultant cost is swollen beyond all reason and beyond practical experience. The cost-of-reproduction-new is the result of estimates, and estimates must always be considered and adjudged by the light of the circumstances under which they are evolved. An estimate to induce a plunge into an enterprise is not justly comparable with one designed to justify an existing rate of dividend. . . .

The evidence as to the reproduction-cost-new given both by the company and by the city is unsatisfactory in those elements upon which the determination must be based. The quantities not being controverted, the differences arise as to unit prices and labor costs. Upon these points we have merely the judgment of a limited number of reputable engineers skilled in their profession, of considerable experience, but obviously having different experiences and resorting to different sources of information. Thus, a large part of the valuation of the property consists of sub-station equipment. It is well known that quotations as to the price of machinery of this character are little to be depended upon. There is no such thing as an established fixed price, and the manufacturing companies make their prices in accordance with the circumstances of the case; and quotations furnished by them are entitled to but very little weight. The difference between actual cost and quotations for the same articles are at times very striking.

The percentages used by the witnesses for the company for the so-called overhead expenses are not such as can meet with approval. They amount to 49 per cent of the estimated cost of labor and materials. This is wholly out of line with the experience of the Commission, and is not in accord with the experience of the company. No evidence was introduced showing that any such percentage of expense has ever been actually incurred in construction.

Chairman Stevens also calls attention to the fact that the reproduction method implies the reproduction of the

existing plant, while it may be more reasonable to estimate the cost of reproducing the existing service by means of a plant of equal efficiency but of improved character and design. Chairman Stevens says (at pages 685-686):

A further criticism upon the use of cost-of-reproduction-new is that it is more obviously just to the consumer to charge against him the cost of reproducing the service rather than the cost of reproducing the existing instrument of service. Such existing instrument may be inefficient or obsolete. If competition has its full force in a given case, the tendency is for the consumer to reap the full benefit of all improvements in character and design of the plant. If monopoly exists, the expense of construction, the ill design, will not be replaced except as the newer construction can be had upon terms which will reduce operating expenses. If the saving in operating expenses is reflected in the rate, the owner receives no benefit and can not afford to change. This condition of affairs results in the complicated problems to be solved in determining who shall bear the burden of obsolescence.

§ 1064. Actual cost used to test reproduction estimate—New Jersey Commission.

In *Re Rates of the Public Service Gas Company*⁷ the New Jersey Commission based its valuation largely on cost of reproduction, but the Board states that in determining such valuation it has given weight to the actual unit costs to the company of that part of its property that had been constructed during the past eight years and concerning which records were then available. The Board says (at page 448):

In addition to valuations made by the engineers, we have available definite information as to the actual cost of constructing some items of the company's property, and we have information as to the total amount expended by the company

⁷ 1 N. J. B. P. U. C. 433, 15 A. T. & T. Co. Com. L. 354, December 26, 1912.

during the past eight years. We are inclined to estimate the value of physical property by using all available information with regard to values; and especially are we inclined to accept as a measure of value for all of the physical property of the company the unit costs to the company for that part of the property constructed during the past eight years. We are not inclined to hold strictly to a valuation made up in this way, as testimony of certain witnesses has demonstrated that certain items cost less, owing to peculiar conditions governing, than would ordinarily be the case. It may be equally true that some items cost more, but on the whole we believe that recent records of cost are very important in deciding upon the value to be set for various groups of physical property.

Actual cost was, however, used chiefly to test the estimates made by the engineers as to the present reproduction cost. For example, in one case the records showed the actual cost of a holder to have been considerably more than the estimates of the expert witnesses as to present cost of reproduction. Testimony indicated that peculiar conditions existed at the time the holder was constructed by reason of which the company had to pay an excessive price. Under these circumstances actual cost was rejected in favor of the estimate for present reproduction cost. In another case the contract price for a holder was much less than the estimates of the expert witnesses. The Board states that the contractor who erected this holder lost money in the transaction and that consequently it is not inclined to hold the valuation down to the actual cost price. (See pages 453-456.)

§ 1065. Plant construction under boom conditions—Nevada Commission.

City of Ely v. Ely Light and Power Company ⁸ involves

⁸ 24 A. T. & T. Co. Com. L. 578, June 7, 1913, Nevada Public Service Commission.

the valuation of an electric plant for rate purposes by the Nevada Public Service Commission. The engineer of the Commission found the reproduction-cost-new of the property to be \$57,117 and the cost-of-reproduction-less-depreciation to be \$41,058. The company claimed an investment of approximately \$80,000. The investment was made under boom conditions in the Ely district. The district at that time had a population ranging from 50 to 100 per cent greater than at present. In consequence, the plant was built for a capacity perhaps double the capacity at present required. Land values had greatly depreciated since the construction of the plant. Under these conditions the Commission based fair value on its estimate of cost-of-reproduction-new. Commissioner Shaughnessy in a dissenting opinion held that in view of the existing conditions the fair value should more properly be based on cost-of-reproduction-less-depreciation. The following is from Commissioner Shaughnessy's dissenting opinion (at page 609):

Defendant put in evidence that its aggregate investment for plant and improvements amounted to approximately \$80,000, but it is to be observed in this connection that the plant has now been in operation six years, and during that time the land values of the company have greatly depreciated, and, as shown above, there has been a very substantial depreciation in equipment and machinery. It is further to be noted that the investment was made at a time when everything was on a boom in the Ely district, with a population ranging from 50 to 100 per cent greater than it is to-day, and it was confidently expected by the company at that time that a greatly increased service over that which now obtains would be rendered. This has not materialized, and in consequence thereof the plant is to-day perhaps double the capacity actually necessary to render the public service at Ely.

In view of the foregoing, I am of the opinion that the fair

rate of return to which the defendant is entitled, and the schedule of reasonable rates to which the public is entitled, should have been computed upon the basis of the value of the property in its present condition, viz, \$41,058.

§ 1066. Criticism of reproduction method—New Hampshire Commission.

Petitions of Grafton County Electric Light and Power Company⁹ is a case coming before the New Hampshire Public Service Commission, and involves an authorization to purchase certain property and to issue securities therefor. Though a capitalization case the Commission holds that in general a proper capitalization is to be determined by the same rules as used in fixing fair value for rate purposes. The Commission held that while the cost-of-reproduction method is of service in ascertaining fair value "it is not in itself the sole or necessarily controlling factor in ascertaining that value." The Commission criticizes the reproduction method, especially in connection with claims for overhead charges. The Commission says (at pages 541-542):

The cost-of-reproduction method is of service in ascertaining present value. It furnishes a point from which to work toward that value. But its results are not to be accepted as the equivalent of that value for the simple reason that in actual business experience they are not so accepted. And too often the results, as suggested by the Supreme Court, "depend upon mere conjecture." If of value, the results certainly are not controlling, when based upon a supposed method of construction which never has been and in all probability never will be followed in this state—a method which certainly was not followed in the construction of either of the companies under consideration. These companies started, as such companies commonly do start, with a very small plant, serving a limited constituency, and gradually making enlargements and extensions to keep pace

⁹ 28 A. T. & T. Co. Com. L. 533, February 3, 1914.

with the growing demand for service. In such developments, extensions are rarely made until sufficient business is in sight to ensure a return upon their cost from the start. And they are made with little or none of those expenses of interest, taxes and insurance during construction, engineering, superintendence, legal expense, and the like, which cut so large a figure in valuations based on the purely fictitious theory of reproduction of the existing plant as an entirety at one time.

The Supreme Court, in the Minnesota Rate Cases, simply eliminated from consideration all the hypothetical costs based upon the theory of reproduction-new, in determining the value of railroad terminals and right of way. . . .

It is clear that the Supreme Court absolutely refuses to regard cost-of-reproduction-less-depreciation as the measure of present value. And, not forgetting that the question was being considered from the standpoint of constitutionality, and that it may in some cases be fair to allow elements of value the allowance of which can not be demanded as a constitutional right, the court seems to go to the length of rejecting, for all purposes of calculation, hypothetical costs based upon a supposed method of construction purely conjectural, and having no relation in fact to the methods actually followed in the case under consideration.

Such a method might in some cases, for lack of better evidence, be the best available means for arriving at the true value of a public utility plant. But in the present case it certainly is not.

CHAPTER V

Actual Cost as an Element in Fair Value for Rate Purposes

§ 1070. California Commission.

1071. New Hampshire Commission.

1072. St. Louis Commission.

1073. Difficulties of the actual cost method—New York Commission, Second District.

1074. Actual cost under construction contract—New York Commission, First District.

1075. Purchase price at foreclosure sale—Minnesota Supreme Court, 1897.

§ 1070. California Commission.

Re Water Rates and Service in the County of San Diego ¹ involves a valuation of a water plant for rate purposes by the Railroad Commission of California. Commissioner Eshleman in delivering the opinion of the Commission distinguishes between the ordinary meaning of the term “value” as related to purchase and sale, and “fair value” for rate purposes. He holds that “fair value” must necessarily be affected or determined by the cost to produce the property, and not by its earning capacity. He states that, while various elements must be considered, the nearest and fairest approximation to a correct value upon which a public utility shall be allowed to earn is the amount of the investment wisely made. Commissioner Eshleman says (at pages 510–512):

In order for rates of a public utility to be just to such utility they should be sufficient after caring for cost of operation, maintenance and depreciation to yield a reasonable return upon the present fair value of the property devoted to the public use.

¹ 2 Cal. R. C. 464, 18 A. T. & T. Co. Com. L. 1002, March 28, 1913.

While the courts have well established this rule and have indicated from time to time the elements to which I have already referred, which should be considered by a rate-fixing body, yet they have never defined the word "value," a term concerning the meaning of which there is of course much dispute. In fact, its meaning is the bone of contention between the two great schools of economic thought. That as applied to a public utility, however, it can not have the significance which the man on the street attaches to it, namely, what the property considered will sell for, it seems to me, is so plain that I become impatient with the superficial thinking which attributes such meaning to it. And were it not for the fact that even such an eminent authority as the Supreme Court of the United States rejects the view that what a utility property as a whole will sell for determines its value, mainly on the ground that because of the nature and magnitude of such properties they do not change hands often enough to use this method as a guide, I should think the mere statement of this theory would carry with it its refutation. Of course in a rate fixing inquiry what a property as a public utility will sell for has no place as a factor, except as such amount is affected or determined by the cost to produce such property and not by its earning capacity. When one would sell a farm or a store, the buyer desires to know what such farm or store will earn, and if he finds the property will earn, say, ten per cent net on ten thousand dollars, he will be willing, if there is a reasonable likelihood of such a condition remaining permanent, to give ten thousand dollars for it. But certainly the ten per cent net earning on a certain value is determined by the price for which he sells the commodity the property produces for sale. And so in the case of a public utility the value determined from the earning power depends upon the rates and the rates are what is to be determined, and we find ourselves in a circle. To illustrate again concretely: Suppose we have a gas plant which at certain rates is earning \$8,000 net per annum after paying maintenance and operation charges and providing for depreciation. This amount is 8 per cent on \$100,000, and if this method is correct the property is worth \$100,000. But if the rates be reduced so but \$4,000 net per annum is earned then

the property is worth but \$50,000, and by the same token if the rates are increased so that an earning capacity of \$16,000 net per annum results the value of the property is \$200,000. In short, to adopt such a view means we can not regulate the rates of public utilities because every time we do so we change value and if we reduce such value we will be depriving the utility of a part of its property without compensation, which we may not do under the Constitution of the United States, and if we raise rates we present value to the utility which thereafter we can not take away for a like reason. But the courts are thoroughly committed to the view that we can regulate the rates of public utilities, ergo this method of arriving at value must be discarded.

It is fortunate, therefore, that the Supreme Court of the United States has failed to define "value" and has contented itself with pointing out certain elements that should be considered, leaving the determination of the composite fact "value" to the discretion of the tribunal empowered to act. My own view is that the nearest and fairest approximation which may be made to a correct "value" upon which a public utility shall be allowed to earn is the amount of the investment wisely made, and this view is not at all in conflict with the position of the courts in this regard. The elements which we have been directed to consider may all well be secondary evidence of this ultimate fact. However this may be, this Commission in every rate-fixing inquiry should give careful consideration, as we have done here, to each of the elements prescribed and should give that weight to each in each case to which we conscientiously think in that case it is entitled, with the hope that thereby we may arrive at such fair value of the property devoted to the public use as is just and fair to the utility and at the same time not oppressive to the consumer.

*San José v. The Pacific Telephone and Telegraph Company*² involves the valuation of a telephone plant for rate purposes by the California Railroad Commission.

² 3 Cal. R. C. —, 24 A. T. & T. Co. Com. L. 370, October 9, 1913, California Railroad Commission.

The actual price paid the contractor for a new building used by the company was \$60,259. The company claimed a reproduction cost of \$68,894, on the ground that there were certain indirect expenses not included in the price paid the contractor, and on the further ground that the contractor lost money on the job. This claim was disallowed and only the actual contract price included. (See page 378.)

§ 1071. New Hampshire Commission.

The New Hampshire Public Service Commission in its report of an investigation of railroad rates³ favors actual cost rather than reproduction cost as a basis for fair value for rate purposes. The Commission says (at pages 302-303):

If a railroad can be reproduced for less than its actual cost, still a sound public policy would seem to require that a return should be permitted upon the amount honestly invested and devoted to the public use. On the other hand, if, through the increase of population, the growth of our cities, and the consequent great enhancement of land values, the cost-of-reproduction-new would be out of all proportion to the amount actually invested in the property, it is questionable whether such increase in cost of reproduction, caused, not by improvements or additional investment, but by the development of the state, should be made a basis for increased charges against the public. A rule equitable alike to investors and the public would seem to be that property dedicated to the public use shall neither increase nor decrease by reason of any change in its cost of reproduction, but shall continue to earn a full return upon the amount honestly invested therein, so long as such return can be secured without the imposition of rates so out of proportion to the service rendered as to be in and of themselves unreasonable. Such a policy will give stability to railroad investments and en-

³ Report of the Public Service Commission of New Hampshire on an investigation of railroad rates, November 30, 1912, 377 pages.

courage the construction and development of transportation facilities. Any other policy would work in the opposite direction. It would be unjust to investors and injurious to the public.

In passing on an application for a transfer of the property of the Berlin Electric Light Company,⁴ the New Hampshire Public Service Commission bases its determination chiefly on the fair value of the property for rate purposes. The Commission considers at considerable length the basis of fair value for rate purposes. It holds that no formula can be devised for ascertaining fair value with mathematical precision, and that the question of fair value must be determined by the tribunal charged with the duty of finding such a value according to the facts of each particular case. The Commission holds that great weight should be given to original cost, but that reproduction cost and all other elements bearing on value should have due consideration. The Commission concludes that where a question of rates is involved the problem is to determine a "fair return" upon a "fair value," and that "any value is a fair value which fair and reasonable men would say ought to be attached to the property, under all the circumstances of the particular case, for the purpose of measuring the return which the public should pay to the owner." The following is from the Commission's discussion of fair value (at pages 182-184):

In fixing the value of a public utility property, value must be taken to be either (1) what the property will sell for, or (2) such an amount as it is just, as between the owners of the property and the public, that the public shall pay the owners a return upon for the use of the property in question.

But if the price at which property may be sold were to be

⁴ Application for approval of sale of Berlin Electric Light Company, 3 N. H. P. S. C. 174, 21 A. T. & T. Co. Com. L. 781, August 30, 1913.

permitted to fix its value, then, since the earnings of a property ordinarily determine the price at which it will sell, it would follow that no reduction in rates could be made which would reduce earnings and value fixed by earnings. Values would tend to the highest amount upon which rates, at the highest point that could be profitably charged, would pay a return, and public regulation of rates would become constitutionally impossible.

Fair value must then be the value which, as between the public and the owners, it is just should be attached to the property for the purpose of measuring the return which the public shall pay to the owners.

It is patent that no formula can be made to determine this quantity with mathematical precision. The United States Supreme Court has refrained from attempting the impossible, but has laid down certain classes of evidence which must, if available, be considered in every case, and has left the weight to be given to the evidence in each class to be determined by the tribunal charged with the duty of finding the value, according to the facts of each particular case.

That no other course is possible would seem to be self-evident. Take for example the weight to be attached to the original cost of the properties in question, the first class of evidence enumerated in *Smyth v. Ames*. In the absence of complicating factors the amount of such original cost might be permitted absolutely to determine value, since it would be ordinarily admitted on the one hand that the investor is entitled to a full return upon the total amount of his investment, and on the other that if he receives such full return each year justice does not require that any addition shall be made to the sum upon which such return is computed. But while in one case it may appear just to allow the original cost to outweigh all other evidence, in another case it may appear that the enterprise was badly conceived, or badly managed, and that the property devoted to public use might have been produced for half what it actually cost its owners. In such case it may well be that cost of reproduction should, in the determination of value, be allowed much more weight than original cost. In another case it may appear

that while the property was well conceived and well managed, and always yielded rates sufficient to pay a fair return upon the entire original cost and to provide a proper reserve to meet depreciation, the owners have not made any such reserve, but have withdrawn all the earnings, so that they have thereby reduced the amount of their investment in property devoted to public use to 60 per cent. of the original amount. In such case the present condition of the property should be allowed to modify the weight to be given to original cost. Again, in a case of a well-conceived and well-managed utility, it may take some years to build the business up to a point where any return at all can be paid to the owners upon the amount of their original investment. In the meantime depreciation may have occurred because the plant did not earn enough to permit the setting aside of a reasonable reserve to meet depreciation. In such case the amount of depreciation which has occurred may well be considered as a necessary cost of establishing the business. Accordingly, little weight will be given to present condition, and much weight to original cost, but to do full justice to the owner the amount of dividends foregone during the necessary development period must also be considered.

It is needless to multiply examples. It is clear that even such an important class of evidence as original cost can have no fixed and certain value in solving the problem of the present fair value of a utility property. The same is true of any other class. The weight to be given to each will vary with the circumstances in each case. . . .

It is fortunate that the United States Supreme Court has recognized the impossibility of formulating any legal definition of the term "value," and has refused to attempt to make into a question of law what is, and must always be, a question of fact.

The classes of evidence specified in *Smyth v. Ames*, if available, ought always to be considered, together with all other evidence having a logical connection with the question to be determined. All such relevant facts should be settled with such accuracy as is possible, and such weight should be given to each fact as is necessary in order to arrive at such a valuation "as may be just and right in each case."

The inquiry where a question of rates is involved is simply to determine a "fair return" upon a "fair value." And we take it that any value is a fair value which fair and reasonable men would say ought to be attached to the property, under all the circumstances of the particular case, for the purpose of measuring the return which the public should pay to the owner.

As a general working principle, original investment, or in the absence of evidence as to that, cost of reproduction, which probably more accurately than anything else reflects original investment, may be taken as of primary importance, but neither can be controlling as to the final conclusion. All the facts must be considered and given such weight in each case as shall be fair alike to the owner and the public.

Petitions of Grafton County Electric Light and Power Company ⁵ is a case coming before the New Hampshire Public Service Commission, and involves an authorization to purchase certain property and to issue securities therefor. The Commission criticizes the reproduction method as a sole or controlling method of determining fair value, and states that it is hopeful that when the basis of valuation is finally and definitely established "it will be universally recognized that if a public utility is assured a fair return on the outlay actually made by it in order that it may serve the public—assuming, of course, reasonable prudence in investment and honesty and efficiency in operation—it has received all to which it is entitled." The Commission says (at pages 550–552):

We have reached such a conclusion regarding value in this case, upon consideration of all the elements enumerated in *Smyth v. Ames*, as leads us to the same result that would be necessary if we were to make a finding of value based upon original investment alone. Upon the latter basis we should find a somewhat different and less value, but the value which we do

⁵ 28 A. T. & T. Co. Com. L. 533, February 3, 1914.

find is not sufficient to justify a transfer at the price proposed. In some cases like this, however, decision must some day be made of the much-mooted question whether the "fair present value" upon which public utilities are entitled to earn a reasonable return is not, and must not ultimately be held to be, the amount actually invested with wisdom and prudence in the public enterprise. . . .

The persistence of the courts in using the phrases "fair present value," and "fair value," seems to indicate a recognition of the fact that there are considerations to be taken into account over and above the bare question of present value—that in view of the character of public utilities as public agencies it is not fair that their return should rest upon the same basis as that of the individual or private corporation who is not given franchises to use the streets, is not endowed with the sovereign power of eminent domain, and is obliged to face free and open competition, instead of being assured, as public utilities generally are, an absolute monopoly. And the Supreme Court of the United States, as pointed out by Commissioner Thelen of the California Public Service Commission, in an extremely interesting paper on "A Just and Scientific Basis for the Establishment of Public Utility Rates, with Particular Attention to Land Values," presented at the 1913 Convention of the National Association of Railway Commissioners, has in several cases apparently shrunk from allowing to property of various classes what was obviously its true "present value," when it did not seem "fair" to do so.

We are hopeful that when the basis of valuation is finally and definitely established, it will be universally recognized that if a public utility is assured a fair return on the outlay actually made by it in order that it may serve the public—assuming, of course, reasonable prudence in investment and honesty and efficiency in operation—it has received all to which it is entitled.

§ 1072. St. Louis Commission.

The St. Louis Public Service Commission, in its report to the Municipal Assembly on the United Railways Com-

pany of St. Louis, November 19, 1912, says (at pages 9, 12-13):

The justice of public regulation of the service and charges of public utilities companies, especially in cities, is generally based upon the assumption that there is always an obligation, expressed or implied, that in return for the use of the streets and other privileges the owners of public utilities are bound to furnish good service at reasonable prices, and that reasonable prices mean prices which will yield no more than a reasonable return on the money properly invested in the service of the public.

The Commission in its valuation has relied mainly upon original cost as the theory most calculated to bring about a just result. So far as the cost of labor and material entering strictly into the track, overhead work, generating plants, etc., are concerned, there would be little difference in results whether present cost, average cost or original cost were used, but the Commission believes that in trying to determine the amount of property upon which a public service company is entitled to a reasonable return from the public, the circumstances under which that property was created and placed in the public service should be taken into account. This view leads to the use of the original-cost theory where practical, but it is not always possible nor desirable to rigidly apply a theory, and the Commission has not attempted to do so in this case at all points.

In its report on the Southwestern Telegraph and Telephone Company⁶ the St. Louis Public Service Commission considers the valuation of a telephone plant for rate purposes. The Commission states that in so far as property other than land is concerned the actual or original cost rather than the reproduction cost is the proper standard for determining value in a rate case. The Commission says (at pages 7-9):

⁶ Report of St. Louis Public Service Commission to the Municipal Assembly of St. Louis on the Southwestern Telegraph and Telephone Company, October 14, 1913.

The valuation work of the Commission in this case (except as to land) has been based as far as was possible upon the original cost of the items of equipment now in the service of the public, and it is agreed with the engineers of the company that so far as direct cost of construction is concerned there would be little difference in result whether original cost or cost-to-reproduce-new is used.

The experience and study of this Commission convinces it that a "fair value," *i. e.*, an amount satisfying to the sense of justice and better called a "just amount," is difficult to attain by strictly following throughout any one theory of valuation, but it believes that so far as items other than land are concerned the original cost theory offers many advantages both to the investor and to the consumer. In the first place it offers stability; the investors who have placed, say, a million dollars in a public utility enterprise have some assurance (depreciation excepted) that they are to be allowed to continue to earn on a million dollars, provided the investment is made in good faith and with reasonable judgment, and the property kept up. All risk of loss in value from fluctuations in the price of labor and material is removed. It is true that all chance of gain from the same fluctuations is also removed. But generally speaking, capital, especially large capital, would much prefer safety to chance of gain at the expense of safety. If this is granted, it follows that the consumer also would benefit by the low return at which capital could be secured.

At present we are going through a period of readjustment of values in public utility properties on account of the presence or imminence of public valuation, and this period necessarily brings much uncertainty as to investments in public service properties. Yet the true aim of regulation is to bring about, eventually, a condition where, so far as possible, all risk and all speculation will be removed from the enterprise, and there will be a clear, lasting and dependable understanding between the consuming public and the investing public. Such a desirable condition can be attained only by making it understood that investors are to be allowed returns upon what they properly invest and keep invested in the service of the public, and not

by making their property the subject of future fluctuation in prices of labor and materials over which they can exert no control.

When *separated from the earning power of the plant as a whole*, by far the greater part of the equipment of a public utility can be said to have no measurable value other than a scrap or second-hand value, and as this earning power is the object of inquiry in a rate case, the so-called valuation of a public utility equipment is in fact the determination of what the value should be rather than the ascertainment of a value already existing, *i. e.*, we say what amount shall earn returns and thus establish that amount as the future value (provided the rate of return is properly established). The methods of establishing this value are in a sense arbitrary and consist in simply totalizing the costs of the separate items. The costs used may be actual original costs of the existing equipment or they may be the present costs of similar items, or the costs may be made up from averages. The totalized costs may or may not be depreciated to obtain the final figure.

Whether the investor should earn on a basis of the actual cost of the present equipment or on what it would cost to-day or on a figure made up from averages is a question which might bring different answers according as each method appeals to the sense of justice of the reasoner. In practical work there will generally be found to be a remarkably small difference in results whichever method is used when the property under consideration is a utility composed of short-life equipment, *i. e.*, railroads, street railroads, steam-electric and telephone properties. With gas and water works properties there might be a considerable difference in results, and as time goes on the hydro-electric properties also may show differences.

Admitting that the so-called valuation of equipment in rate cases is not really a process of finding an existing value, but merely a method of establishing a just amount to be earned on, and that any of the several methods might appeal to a sincere desire to attain a just result, it can not be denied that for the sake of clear knowledge of what is to be expected from the future and for the elimination of unnecessary risks to capital arising

from public regulation the original cost method is the best in giving the investor the assurance that what he puts into the public service shall be used as the basis of his future returns. It is for this reason, among others, that this Commission believes the original-cost method to be the preferable one to use in the valuation of equipment where there is not some circumstance clearly indicating that the use of the method would bring about an unjust result.

This theory of the problem of valuation has been well stated by James E. Allison, Commissioner and Chief Engineer of the Public Service Commission of St. Louis. In a paper on "Ethical and Economic Elements in Public Service Valuation," published in *Quarterly Journal of Economics* for November, 1912, Mr. Allison says (at pages 39, 45-46, 48-49):

The theory of cost-of-reproduction-new neglects some of the ethical elements necessary to the adjudication of values by public officials. In fact, how can a theory of value be a just one when it is avowedly based entirely upon present conditions, and when it leaves out of account all the varied circumstances under which a set of investors may have placed their money in a public service? . . . Yet the true aim of regulation is to bring about eventually a condition where, so far as is possible, all risk and all speculation will be removed from the enterprise, and there will be a clear, lasting, and dependable understanding between the consuming public and the investing public. Such a desirable condition can be attained only by making it understood that investors are to be allowed returns upon what they properly invest and keep invested in the service of the public, and not by making their property the subject of future fluctuation in prices of labor and materials over which they can exert no control. . . .

In searching for a guiding ethical over-theory of value for use in making valuations of existing properties, there presents itself for consideration an adaptation of the socialistic theory of value—value measured by the sacrifice of the producers. The

pure socialistic theory goes back to the sacrifice in the way of discomfort and physical effort made by the workman, and is, of course, entirely subversive of economic values as at present established. But it seems quite possible that an adaptation of the theory, which would only go back to the money sacrifice of the investor, might be found a workable theory for our problems of valuation and rate making. It would, however, be necessary to limit the theory to a consideration only of the *efficient* sacrifice made in the service of the public. Without the limiting word "efficient" the theory would run wild and admit of all kinds of abuse.

It may be objected that results based upon efficient sacrifice may not be a "value." The term "value" is an unfortunate one when used in naming the ultimate object of public service valuation work; only if qualified as ethical value does it express with any accuracy the result which should be desired. It would be much better if the object of so-called valuation were described as the "just amount" to be earned on, or the "just capital." But it is probable that the idea of value is too intimately connected with the work for the use of the term ever to be eliminated.

The statement that the returns to be earned by the public utility companies should be so adjusted as to give a just reward for efficient sacrifice in the service of the public is probably nothing more than the crystallization into a phrase of what has been the aim of the courts and commissions which have had the elements of justice in their minds when dealing with questions of valuation and rate making. Nevertheless, the statement in succinct form, if adopted as the definition of an over-theory, might serve to make questions of strictly economic value subordinate to the ethical questions of justice, and might possibly prevent many errors which are sure to occur in case any strictly economic theory becomes controlling.

§ 1073. Difficulties of the actual-cost method—New York Commission, Second District.

In *Buffalo Gas Company v. City of Buffalo*,⁷ Chairman

⁷ 3 P. S. C. 2d D. (N. Y.) 553, 23 A. T. & T. Co. Com. L. 244, February 4, 1913.

Stevens of the New York Public Service Commission for the Second District discusses the theory of fair value and treats at length the difficulties of both the reproduction and the actual-cost methods (see above, § 1063). In regard to original cost he says (at pages 639-640):

We may turn now to the original-cost theory. Theoretically, this has great attractions. Assume the case of a town having no gas service whatsoever, and that a gas plant thoroughly equipped, economically constructed, and in every way efficient, should be constructed for service. Obviously, the fair rate of return should be based upon the money put into the plant: that is to say, the original cost. Every one would recognize the justice of this; and the rate would continue upon this basis undisturbed for long series of years. There are, however, many difficulties which would arise if this theory were adopted. The first one is a practical difficulty which is to a large extent insurmountable. In the case of many existing plants there is no practical way of ascertaining the original cost with accuracy. This is absolutely true in the present case. There are no records available, at least none known to the Commission, which show what the cost was. According to the evidence submitted, the books of the various companies were kept upon different theories, and did not, back in 1896, afford any proper indication of the cost. In addition to that, unless the cost of each item could be ascertained, it would be impossible to reach a conclusion in this case, for the reason that much of the plant which was originally constructed has been destroyed. The generating plant and holder of the Citizens Company have been entirely destroyed. The generating plant of the Mutual Company has also been demolished. The consolidation of the companies has probably rendered useless much piping which was necessary for their original operation. The review hereinbefore given of the probable cost of the constituent properties is, however, as reliable and satisfactory as the evidence concerning the reproduction cost of much of the property. It is sufficient to say that while we may approximate the original cost in this case, we can not

determine it. While we may approximate the reproduction cost, we can not determine it.

This subject is further treated by Chairman Stevens in *Fuhrmann v. Cataract Power and Conduit Company*³ (at page 683):

The reasonable sum upon which the owners of this new plant are entitled to a return is the amount of floating capital which has been sacrificed or destroyed in its production, and a just amount for the energy and skill which have been expended in producing the property which is useful in serving the public. The rate of return upon these amounts is variable, depending upon the rate which the floating capital might have earned in other employments, the risk of the enterprise, and the length of time it may reasonably be expected to earn returns. Generally speaking, these amounts may be summed up in one word, "cost." Cost, however, can not be accepted as a fixed amount from which there can be no deviation. It may have been extravagant and wasteful. Clearly, the extravagance and waste are the loss of the owners, and should not be a burden upon the public. Skill and ability of an unusual order may have been displayed in constructing the plant, with the result of large savings in its cost as compared with cost under ordinary and average management. Such savings should be the reward of the skill and ability used in producing them, and can not be claimed as a matter of right by the consumer. Extraordinary misfortune may have occurred in the course of construction, enhancing materially the cost which might have been reasonably expected. Whose is the loss? The construction may have happened to fall in a period of either abnormally high or low prices. When prices have resumed what may be deemed to be their normal level, who is to reap the benefit of the one or bear the burden of the other—the owner or the consumer?

³ 3 P. S. C. 2d D. (N. Y.) 656, 18 A. T. & T. Co. Com. L. 1015, April 2, 1913.

§ 1074. Actual cost under construction contract—New York Commission, First District.

Re Bond Issue of New York and North Shore Traction Company⁹ involves an approval of the capitalization of a newly constructed railway by the New York Public Service Commission for the First District. It was held that actual cost could not be inflated through the agency of a construction company under identical control. The New York and North Shore Traction Company presented figures which showed that, omitting interest, its actual disbursements for new construction totaled \$1,169,041.99, including the actual payments for engineering, superintendence, legal fees, franchise payments and expenses, syndicate fees, and the like. It asked that the Commission thereupon approve the issuance of securities on a basis of approximately \$330,000 in excess of such actual payments. As a reason for thus abandoning actual cost as a guide in determining the amount of securities properly issuable, the applicant pointed out that the construction contract under which the work had been done provided for the addition of certain percentages, and urged that the "actual cost" should be capitalized only with these additions. This construction contract was with a corporation nominally separate from the New York and North Shore Traction Company, but the construction company had no previous existence and no organized staff, and was actually controlled by the same persons as the traction company. It appeared that the traction company could itself have done all of the work with equal facility, and it was admitted by one of the officers of both corporations that the real reason for doing the work through a construction company was to have a contract that would afford a warrant for a larger issue of securities. The Commission held (at

⁹ 3 P. S. C. 1st D. (N. Y.) 63, February 13, 1912.

page 80) that this was not a valid reason, as "securities must be based upon some solid ground, such as value or cost, and not varied with the multiplication of inter-company relations," and that the arbitrary percentages of the so-called construction agreement could not be accepted as basis for anything.

§ 1075. Purchase price at foreclosure sale—Minnesota Supreme Court, 1897.

The case of *Steenerson v. Great Northern Railway Company* involves the valuation of a railroad for rate purposes. In discussing the basis of valuation, Judge Canty holds that the amount at which the railroad was sold years ago on a mortgage foreclosure sale is not a proper basis. Judge Canty says:¹⁰

At the foreclosure sale of 1879 the 561 miles of main track then built were sold for a small part of their original cost, and a small part of what it would then cost to reproduce them, saying nothing of the large quantity of valuable lands included in the sale. The attorney-general contends that the price at which the property sold at the foreclosure sale must, as far as it goes, be taken as the basis for determining in this case what is a reasonable income to be derived from the operation of these lines of railroad. On the other hand, counsel for the railway company contend that the amount of the present fixed charges of the Great Northern Railway Company is the controlling consideration in determining what is a reasonable income to be derived from operating the lines so leased by it. In our opinion, both positions are wholly untenable. If the Manitoba Company and its promoters bought the properties at the foreclosure sales at a great sacrifice, that is their good fortune. If the leasing of the system by the Great Northern Railway Company turns out to be a bad bargain, that is its misfortune. The patrons of the road should not gain by the one transaction or lose by the other. There is as much reason why the public should bear the loss of

¹⁰ 69 Minn. 313, 72 N. W. 713, 715, October 20, 1897.

the bad bargain as there is why it should take the profits of the good bargain. To adopt any such principle would leave the public at the mercy of every railroad manipulator, and offer a premium on all kinds of schemes for increasing the fixed charges of railroads.

CHAPTER VI

Valuation of Land

§ 1080. The Minnesota Rate Cases and market value as a basis for land value.

1081. Appreciation should be treated as income or considered in fixing the rate of return.

DECISIONS RELATIVE TO APPRECIATION IN LAND VALUE

1082. Federal Court in Alabama railroad rate cases.

1083. Arizona Commission.

1084. California Commission—Actual cost the logical rule.

1085. Chicago telephone appraisal—Appreciation an offset to development expense and depreciation.

1086. New Hampshire Commission—Appreciation an offset to development expense.

1087. New York Appellate Division and Court of Appeals.

1088. New York Commission, Second District—Distinction between land and other property.

1089. St. Louis Commission—Distinction between land and other property.

1090. Wisconsin Commission—Appreciation not an offset to depreciation—Case of decline in value.

DECISIONS RELATIVE TO MARKET VALUE AND REPRODUCTION

METHODS OF ESTIMATING LAND VALUE

1091. United States Supreme Court in Minnesota Rate Cases.

1092. Federal Court.

1093. California Commission—Method of determining reproduction cost—Fair value may be less than market value.

1094. Maryland Commission—Market value.

1095. Michigan Commission—Capitalization of costs incident to acquisition of land.

1096. New Jersey railroad tax appraisal, 1911—Reproduction method rejected.

1097. New Jersey Commission—Market value.

§ 1080. The Minnesota Rate Cases and market value as a basis for land value.

The decision of the United States Supreme Court in

the Minnesota Rate Cases is treated at length in §§ 1021, 1091. As to land value, the court held that the actual investment is not controlling and that it is the present value of the property of the company and not its original cost of which the owner may not be deprived without due process of law. The court states, however, that while "it is clear that in ascertaining the present value we are not limited to the consideration of the amount of the actual investment," yet there is no just ground for placing a value on railway lands in excess of the actual investment and in excess of the value of similar property owned by others, merely on account of a conjectural cost of acquisition and consequential damages and on account of percentages or other overhead expenses. The court concluded that "the company would certainly have no ground for complaint if it were allowed a value for these lands equal to the fair average market value of similar land in the vicinity, without additions by the use of multipliers or otherwise to cover hypothetical outlays."

§ 1081. Appreciation should be treated as income or considered in fixing the rate of return.

As already stated (see § 1014) it seems that actual cost is the most appropriate standard of value for rate purposes. Though some compromise may be desirable as to the past, actual cost should be adopted as the normal standard for the future. But if this is not done it will still be logical and just that appreciation be treated as income or considered in fixing the rate of return. There can be no doubt that appreciation *upon which a return is earned* does constitute a profit of a very real sort.

The permanent investor in city real estate looks for his profit to the increase in the value of the land as well as to actual rentals received. He measures the profitableness of his investment by the annual increment in the value of

the land plus the net rental. The permanent investor would consider himself singularly fortunate if in addition to a practically guaranteed return of 7 per cent he could add an annual increment in the value of his holding of 10 per cent. A source of profit so great and in the long run so certain can not be overlooked in determining the average income that will be fair to the company and to the consumers.

Though the investor in city real estate may not directly consider the annual increment in land value in determining his net income, he will nevertheless consider it indirectly. He may estimate that the increment in the value of the land will at least offset the depreciation in the value of the building, and he will therefore make no allowance in his calculation of annual profit for such depreciation. This is substantially the position taken by the New York Commission (see above, § 122). But instead of assuming that appreciation in land may roughly be taken to offset depreciation in structures and equipment a careful estimate is made of average depreciation and a careful estimate is also made of average appreciation, and the real average income is thus approximated.

The rules laid down by the United States Commissioner of Internal Revenue under date of December 15, 1911, for the purposes of the special excise tax on corporations provide that profits realized on the sale of real estate and also appreciation on unsold property if taken up on the books shall be included in the income of the corporation subject to the special excise tax. (See above, § 123.) It is true that under this ruling appreciation in value of unsold property is not included in current income unless such appreciation is taken up on the books of the corporation. But equitably in a rate case such appreciation is taken up whenever the corporation claims a return on the appreciated value. If a company claims a return

on appreciated value, it can not equitably hold that such appreciation does not constitute a part of its income.

In considering this matter it is sometimes frankly admitted that appreciation in land value does constitute a very important part of the real income of certain public service companies, but it is argued that inasmuch as this source of additional income was probably counted on by those who originally invested money in the enterprise it is not fair to deny them the advantage of such appreciation in a rate case. If, however, this additional source of income was relied upon by the original investors, it necessarily served to reduce the rate of return adequate to induce such investment. The determination of fair value is only one step in the process of determining a reasonable rate of charge. We have already found that a reasonable rate of charge for an appropriate and normally successful utility enterprise is the equivalent of the normal cost of production. The normal cost of production is the amount which in the long run it is necessary to pay to secure the utilities demanded by the public. It is the amount that will secure an equilibrium between demand and supply. Increments and profits of every kind enjoyed by the company must necessarily be considered a part of the total compensation that the company receives from the public. In so far as there are increments and profits arising from increase in land values it is clear that such increments and profits should in a rate proceeding be considered either as income or as an offset in fixing the rate of return. There is no escape from the logic of the position that in determining a fair average return profits from every source must in some way be considered. If they are not included in the income account, they must necessarily be considered in fixing the fair rate of return.

DECISIONS RELATIVE TO APPRECIATION IN LAND VALUE

§ 1082. Federal Court in Alabama railroad rate cases.

Louisville and Nashville Railroad Company *v.* Railroad Commission of Alabama,¹ decided April 5, 1912, is one of three cases referred by the court to W. A. Gunter as special master. The special master made extensive reports, holding the proposed rates confiscatory, and these reports were approved by District Judge Jones in a single opinion covering the three cases. The valuation in this case is based chiefly on cost-of-reproduction-less-depreciation. With regard to the right of the railroad to the benefit of any appreciation in the value of its property Judge Jones says (at pages 821-822):

It is insisted that in reproduction estimates the enhanced value of property between the time of the original location of a railroad through a wilderness or marsh, it may be, is not to be taken into account 40 or 50 years afterward, when civilization, perhaps largely the result of the expenditures and operations of the road, has increased original values a hundredfold. Suppose a road is located when original cost is fabulously inflated, and the course of events brings things down to their intrinsic worth, upon whom does the loss fall? It is usually understood that the state does not make up such losses to its citizens. And, vice versa, when minerals are discovered or oil wells developed on lands, does not the owner of the land own its product? And how are tax values estimated? Do the officers take the value when land is first entered and cleared or when it has been improved and become a town site? The law is perfectly settled, with the obvious view of the matter, that increments and losses alike attach to ownership as to duties and rights pertaining to property. *Willcox v. Con. Gas Co.*, 212 U. S. 52, 29 Sup. Ct. 192, 53 L. Ed. 382; *Stanislaus v. Irrigation Co.*, 192 U. S. 215, 24 Sup. Ct. 241, 48 L. Ed. 406; *San Diego Land Co. v. National City*, 174 U. S. 757, 19 Sup. Ct.

¹ 196 Fed. 800.

804, 43 L. Ed. 1154. And this just rule has its balances and adjustments making it not oppressive to the public in any case. It is to be noticed, too, that the rates in fact usually diminish with the increase in property values, because the increase of business dominates values and justifies lower rates; but, be that as it may, the rule of giving to the owner the increments of value and subjecting him to the losses in values has the unequivocal sanction of the law.

Special Master Gunter in his report in the above case discussed this subject as follows (at page 84):²

The next point is that in reproduction the enhanced value of property for fifty or a hundred years, caused among other things by the facilities furnished by the road, is not to be considered. But there is no known method of determining the share of the development of a country assignable to the existence of a particular market facility. And, besides, the road is entitled to all enhancement of values. If values decline, the road is the loser; if they advance, the road is entitled to the benefit. So it is declared, and seemingly with justice.

The road as it exists has value from every incident of situation which affords opportunity to earn an income. And the right of way on reproduction for rate determination obviously must include every such surrounding. The new road is to be the "forced heir" of the old road, vanishing in imagination as the new is constructed. And the enhancement of values includes and represents such advantages as time has given to the location.

The present right of way is an artery and vein of commerce, receiving and imparting its current from and to the adjacent and connecting country, by and through infinite smaller connections. And the new road succeeds to the situs without losing a drop of blood (commerce). And all enhancement of prices is an inherent constituent of the situs.

² *Louisville & Nashville Railroad Company v. Railroad Commission of Alabama*, U. S. Circuit Court, Middle District of Alabama, Report of William A. Gunter, Special Master in Chancery, 1911.

§ 1083. Arizona Commission.

The *Municipal League v. The Pacific Gas and Electric Company* involves the valuation of a gas and electric plant for rate purposes by the Arizona Corporation Commission. The Commission includes land at its appreciated value. The Commission says (at page 717):³

The company's real estate holdings purchased in 1902 at a cost of \$6,560 are listed by the company at \$30,000. The testimony of real estate men as to the value of this property ranged from \$15,000 to \$26,000 as its present-day value. We are of the opinion that the company is entitled to appreciation upon its real estate, and the total value of the company's real estate as found by us is deemed the reasonable value and in harmony with the record.

§ 1084. California Commission—Actual cost the logical rule.

In refusing an application of the North Coast Water Company for authority to increase its rates the California Railroad Commission discusses the question of whether land should be taken at its actual or appreciated value.⁴ Commissioner Thelen takes the ground that land should be included at its actual cost, but finds it unnecessary to pass on this question for the purposes of the present case. Commissioner Thelen says (at pages 1165–1168):

The matter deserving the most serious consideration in the foregoing tabulation is the value assigned to the land. The land which cost \$43,400 some nine years ago is now claimed to have a value of \$93,000, being more than double the original cost, and a return is asked on what is claimed to be the present value, including what is popularly known as the unearned increment of land. While it is not necessary to decide this point here, for the reasons which will hereinafter appear, I desire at

³ 21 A. T. & T. Co. Com. L. 699, June 23, 1913.

⁴ Application of North Coast Water Company to increase rates, 3 Cal. —, 26 A. T. & T. Co. Com. L. 1161, December 3, 1913.

this point to draw attention to this question of the value to be assigned to land in rate-fixing inquiries, which question is one of the most important which can possibly arise in a rate-fixing inquiry. This question tests squarely the correctness of the so-called reproduction-value or present-value theories on the one hand and the original cost or investment theory on the other. In this connection I desire to refer to the language of Mr. Justice Van Fleet in *San Diego Water Company v. San Diego*, 118 Cal. 556, who expresses what he believes to be the fundamental relationship between the public and a public utility, which is one of principal and agent. . . . [Quoted above, § 103.]

The foregoing conclusion was worked out by Mr. Justice Van Fleet logically and on principle from the fundamental relationship existing between the public and its public utilities. The use of the present-value or reproduction-value theories does not spring in any way out of that relationship and has no necessary connection with it. As Mr. Justice Van Fleet clearly points out, the use of either the present-value or the reproduction-value theories may be as clearly unjust to the public utilities on the one hand, in case prices have gone down, as it is to the public on the other hand, in case prices have gone up. In logic and justice, the public utility should receive a return on the moneys reasonably and properly expended in the acquisition and construction of its works actually and properly in use to carry out its agency—no more and no less. If care is exercised in thus ascertaining the valuation on which a return is to be allowed and if a liberal return is then allowed on that basis, as is the practice of the California Commission, the utility will be receiving full justice while the consumer on the other hand will be paying no more than he ought reasonably to be called upon to pay his agent. . . .

Without at this time going further into this question and meeting such objections as may be raised to the views taken by Mr. Justice Van Fleet and Mr. Franklin K. Lane [quoted above, § 108], with which views I heartily concur, I shall pass on to the consideration of other features of this application.

As hereinbefore stated and as will hereinafter appear, it

is not necessary in this proceeding to pass on the question whether applicant shall be allowed a return on the greatly increased value of its land. Applicant has asked for an increase in rates. In order to decide this application it is necessary simply to ascertain whether such increase is justified without going into the further question of whether or not the present rate is higher than it might reasonably be if the entire situation were investigated with the intention of establishing at this time a rate to be charged by applicant.

§ 1085. Chicago telephone appraisal—Appreciation an offset to development expense and depreciation.

In his report on the rates of the Chicago Telephone Company,⁵ Professor Bemis found that land values had increased from \$601,801 to \$1,331,642, or 121 per cent. He discusses the treatment of appreciation as follows (at pages 36-37):

How to treat the increase in land values, in a rate case like this, has been and still is a much disputed and unsettled question. The tendency of the courts has been toward the recognition of this increased value. Such has also been the practice of the Wisconsin Railroad Commission. On the other hand, the Massachusetts Gas and Electric Light Commission, which has, by far, the greatest age and prestige of any of our commissions, has always refused to recognize increase in the regulation of rates. It is held that only on the sale of such land can the company divide as a surplus the unearned increment, and it is not certain that even then the Massachusetts Commission would not compel the use of the proceeds of the sale in meeting needed extensions. . . .

If the appraisal be correct, the value of the land has increased from \$601,801.14 to \$1,331,642.60. This is a yearly arithmetical increase of 10.5 per cent on its original cost. The method by which this result is reached is as follows: The cost of the

⁵ Report on the investigation of the Chicago Telephone Company submitted to the Committee on Gas, Oil and Electric Light by Edward W. Bemis, October 25, 1912.

land on December 31, 1887, was \$40,420. Now, \$40,420 used for 24 years to the close of 1911 is equivalent to \$1,018,080 used for one year. By December 31, 1902, an additional amount of land had been acquired costing \$182,634. This for 19 years is equivalent to \$3,470,046 for one year. Reckoned in this way the land is equivalent to \$6,995,621 for one year. The total increase of value of \$729,841.46 is 10.43 per cent of this. An increase of 10.43 per cent of the original cost (\$601,801.14) owned on August 1, 1911, the date of the appraisal, is \$62,768 a year. This is the annual amount of increase of land values which on the basis of its past history the company may reasonably expect to receive during the next few years. It represents an addition to its income of about one-quarter of 1 per cent on its stock, and is taken into consideration by the New York Public Service Commission, First District, in fixing rates.

From his subsequent discussion in this report it appears that Professor Bemis offsets accrued depreciation by appreciation in determining whether any addition should be made to fair value to cover the cost of developing the business, and in determining also the net amount of depreciation that will have to be provided for by annual payments in the future.

§ 1086. New Hampshire Commission—Appreciation an offset to development expense.

In passing on an application for a transfer of the property of the Berlin Electric Light Company,⁶ the New Hampshire Public Service Commission bases its determination chiefly on the fair value of the property for rate purposes. In this case the Commission suggests that in determining fair value it may be just to offset the cost of bringing the business to a paying basis by any appreciation in the value of water power or land. The Commission says (at pages 206–207):

⁶ 3 N. H. P. S. C. 174, 21 A. T. & T. Co. Com. L. 781, August 30, 1913.

Evidence of the character indicated should be considered, but in the end it will ordinarily be best to fix a value upon the entire property to be appraised rather than to attempt to dissect it and fix an exact value on all its several parts.

This is especially true where occasion arises to value a utility property including a water power or other real estate interests which have appreciated while other portions of the property have depreciated. As stated by the court in *Consolidated Gas Company v. City of New York*, 157 Federal Reporter, 855:

“Upon reason it seems clear that in solving this equation (of present value) the plus and minus quantities should be equally considered and appreciation and depreciation treated alike.”

In determining how much weight ought to be given to present condition of artificial structures, machinery and apparatus in comparison with cost of reproduction or original cost, and what weight ought to be given to such cost as may have been incurred, either in money advanced or dividends foregone, to build up the business to a paying basis, it is desirable to have all the facts relating to the original cost of the entire plant and bearing upon the composite value of the entire plant under consideration at the same time.

It has been before suggested that it may be just and right in some cases to treat depreciation in plant, which has occurred by reason of a lack of earnings during the development period, as a necessary cost of building up the business; but less weight might properly be attached to that item of cost in a case where the depreciation of a portion of the property has been offset by appreciation of other portions.

§ 1087. New York Appellate Division and Court of Appeals.

In the case of *Kings County Lighting Company v. Willcox*⁷ an order of the New York Public Service Commission for the First District, fixing the gas rates of the Kings County Lighting Company, was subjected to

⁷ 156 App. Div. N. Y. 603, May 9, 1913.

judicial review pursuant to a writ of certiorari.⁸ The Appellate Division of the Supreme Court reversed the determination of the Commission and remanded the matter to the Commission. In this case the Commission held that the average annual appreciation in the value of the company's land should be treated as income and thus serve to neutralize to a certain extent the effect of appreciating land values in the determination of a reasonable rate of charge. The court overrules this contention. Judge Clark says (at page 617):

We are of opinion that upon the other matters going to make up the item of capital invested upon which a fair and reasonable return is to be calculated the decision of the Commission is right. In its calculation of income, however, it has included an item of \$35,000 as the annual increase in the value of the land of the company. This we regard as erroneous. The land is used for the business of the company and is appropriate therefor. So long as the land is held and used for such purpose increase in value can not be considered as income or as available for the payment of debts, taxes or dividends.

This ruling was approved on appeal by the Court of Appeals in its decision of March 24, 1914. Judge Miller said:

We agree with the Appellate Division that annual increase in the value of land is not income. Of course, under the rule of the Ames Case (*supra*), land might become so valuable as to require its use for other purposes and as to make a rate based on it unfair to the public. The present is not such a case.

§ 1088. New York Commission, Second District—Distinction between land and other property.

*Fuhrmann v. Cataract Power and Conduit Company*⁹ is a case involving a valuation for rate purposes. In this

⁸ For an abstract of the opinion of the Commission, see above, § 122.

⁹ 3 P. S. C. 2d D. (N. Y.) 656, 18 A. T. & T. Co. Com. L. 1015, April 2, 1913.

case Chairman Stevens in delivering the opinion of the Commission points to the distinction between land and other property owned by the company. He states that land has a market value and that this fact differentiates it from property that is valuable only for company operations. He concludes that land should be taken at its present or appreciated value. He says (at page 726):

The land owned by the respondent consists of five distinct parcels, which are carried upon its books at \$54,601.45, this being their cost. This is the sum at which they are carried in the examiner's report. Land has a value for other purposes than that of carrying on the proper business of the company. It could be retired from the service at any time at its market value for such other purposes. This fact differentiates it from property which is valuable only for company operations, and it has been universally held that a company is entitled to a just and reasonable return upon the present value or market value of the land used by it in the public service. It is clearly distinguishable in principle from those things which have no value except in the service of the company except scrap value.

§ 1089. St. Louis Commission—Distinction between land and other property.

In its report on the Southwestern Telegraph and Telephone Company ¹⁰ the St. Louis Public Service Commission considers the valuation of a telephone plant for rate purposes. The Commission holds that land should be appraised at its present market value. In estimating the cost of equipment the Commission has taken actual or original cost. The Commission notes a distinction between equipment and land, in that equipment in place has in general no market value other than a scrap or second-hand value, while land usually has a market value

¹⁰ Report of St. Louis Public Service Commission to the Municipal Assembly of St. Louis on the Southwestern Telegraph and Telephone Company, October 14, 1913.

distinct from its use in a public utility. The Commission says (at pages 9–10):

It has been stated above that the greater part of equipment has no measurable present “value” (other than scrap or second hand) separable from the earning power of the whole plant, but with land the case is entirely different. Land generally has a present value distinct from its use in a public utility. This value is what it might be expected to bring at a sale under ordinary conditions and will approximate the value of contiguous property.

In fact “commercial land” (see note) is almost a cash item at its present sale value. The company could supposedly realize this amount in money; but refraining from doing so and keeping the amount in the service of the public, it seems but just that this present value should be the amount upon which it should be allowed to earn reasonable returns. The Commission believes that the value assigned to commercial land in this case should be its appraised present value in the market and has used this appraised value in building up the amount upon which it considers this company entitled to earn a reasonable return from the Public.

NOTE—This statement must be qualified considerably in the case of railroad right of way, but discussion of the point is not germane to the present case, as the land of the company is probably all “commercial land,” having value for other uses than the present one.

§ 1090. Wisconsin Commission—Appreciation not an offset to depreciation—Case of decline in value.

The case of *City of Milwaukee v. The Milwaukee Electric Railway and Light Company*¹¹ involves the valuation of a street railway for rate purposes. The Commission issued an order slightly reducing the existing rates of charge. The Commission rejects the city's contention that appreciation in land value should be deducted in esti-

¹¹ 11 W. R. C. R. 1, 14 A. T. & T. Co. Com. L. 197, August 23, 1912.

inating the annual allowance for depreciation. The city contended that as the purpose of a depreciation reserve is to keep the investment intact the best method to deal with the question of real estate appreciation is to deduct it from the depreciation on other property in determining the depreciation on the whole investment (page 233).

Superior Commercial Club v. Superior Water, Light and Power Company ¹² involves the valuation of a water, light and power plant for rate purposes by the Wisconsin Railroad Commission. The value of land is appraised at \$34,850, which was about \$30,000 less than the land cost. The land had been purchased during a boom period. The company contended that the actual cost of the land should be taken into consideration in determining fair value. The Commission, however, pointed to its decisions in former cases, holding that appreciation in land value should accrue to the company and that consequently the loss due to depreciation should be borne by the company.¹³

DECISIONS RELATIVE TO MARKET VALUE AND REPRODUCTION METHODS OF ESTIMATING LAND VALUE

§ 1091. United States Supreme Court in Minnesota Rate Cases.

In the Minnesota Rate Cases ¹⁴ the lower court had followed strictly the reproduction-cost method in fixing the value of land for right of way and terminal purposes (see §§ 71, 117, 136, 142). The reproduction cost of lands outside of terminals had been fixed at twice the normal value of such land and the reproduction cost of terminal land was increased by 30 per cent over the normal value of such land. This was on the theory that every rail-

¹² 11 W. R. C. R. 704, November 13, 1912.

¹³ See above § 113, abstract from *State Journal Printing Co. v. Madison Gas & Electric Co.*, 4 W. R. C. R. 501, 579.

¹⁴ 230 U. S. 352, 33 Sup. Ct. 729, June 9, 1913.

road company is compelled to pay more than the normal market value of the land it acquires due to the cost of acquisition, consequential damages and in some cases to a special value for railroad use.

Following out the reproduction-cost method also, the court below had included percentage allowances for various overhead expenses which were computed in part upon the reproduction cost of the land. Thus in the case of the Northern Pacific Railway there was included an allowance of $4\frac{1}{2}$ per cent on various items included in the appraisal including the cost of land to cover "engineering, superintendence, legal expenses" and also an allowance of 5 per cent to cover "contingencies" and also an allowance of 10 per cent to cover "interest during construction." In the case of the Great Northern Railway, the interest during construction amounted to 16 per cent, as the estimated construction period was four years instead of two and one-half years as in the case of the Northern Pacific. Justice Hughes states that the increase on the normal value of the land by the use of multipliers and overhead percentages "is the result of the endeavor to apply the cost-of-reproduction method in determining the value of the right of way." He states that while "it is clear that in ascertaining the present value we are not limited to the consideration of the amount of the actual investment" yet there is no just ground for placing a value on railway lands in excess of the actual investment and in excess of the value of similar property owned by others merely on account of a conjectural cost of acquisition and consequential damages and on account of percentages for other overhead expenses. Justice Hughes discusses the problem as follows (at pages 450-455):

These are the results of the endeavor to apply the cost-of-reproduction method in determining the value of the right of

way. It is at once apparent that, so far as the estimate rests upon a supposed compulsory feature of the acquisition, it can not be sustained. It is said that the company would be compelled to pay more than what is the normal market value of property in transactions between private parties; that it would lack the freedom they enjoy, and, in view of its needs, it would have to give a higher price. It is also said that this price would be in excess of the present market value of contiguous or similarly situated property. It might well be asked, who shall describe the conditions that would exist, or the exigencies of the hypothetical owners of the property, on the assumption that the railroad were removed? But, aside from this, it is impossible to assume, in making a judicial finding of what it would cost to acquire the property, that the company would be compelled to pay more than its fair market value. It is equipped with the governmental power of eminent domain. In view of its public purpose, it has been granted this privilege in order to prevent advantage being taken of its necessities. It would be free to stand upon its legal rights and it can not be supposed that they would be disregarded.

It is urged that, in this view, the company would be bound to pay the "railway value" of the property. But, supposing the railroad to be obliterated and the lands to be held by others, the owner of each parcel would be entitled to receive on its condemnation its fair market value for all its available uses and purposes. *United States v. Chandler-Dunbar Water Power Co.*, decided May 26, 1913. If, in the case of any such owner, his property had a peculiar value or special adaptation for railroad purposes, that would be an element to be considered. *Boom Company v. Patterson*, 98 U. S. 403; *Shoemaker v. United States*, 147 U. S. 282; *United States v. Chandler-Dunbar Co.*, *supra*. But still the inquiry would be as to the fair market value of the property; as to what the owner had lost, and not what the taker had gained. *Boston Chamber of Commerce v. Boston*, 217 U. S. 189, 195. The owner would not be entitled to demand payment of the amount which the property might be deemed worth to the company; or of an increase over its fair market value by reason of any added value supposed to result

from its combination with tracts acquired from others so as to make it a part of a continuous railroad right of way held in one ownership. *United States v. Chandler-Dunbar Co.*, *supra*; *Boston Chamber of Commerce v. Boston*, *supra*. There is no evidence before us from which the amount which would properly be allowable in such condemnation proceedings can be ascertained.

Moreover, it is manifest that an attempt to estimate what would be the actual cost of acquiring the right of way, if the railroad were not there, is to indulge in mere speculation. The railroad has long been established; to it have been linked the activities of agriculture, industry and trade. Communities have long been dependent upon its service, and their growth and development have been conditioned upon the facilities it has provided. The uses of property in the communities which it serves are to a large degree determined by it. The values of property along its line largely depend upon its existence. It is an integral part of the communal life. The assumption of its non-existence, and at the same time that the values that rest upon it remain unchanged, is impossible and can not be entertained. The conditions of ownership of the property and the amounts which would have to be paid in acquiring the right of way, supposing the railroad to be removed, are wholly beyond reach of any process of rational determination. The cost-of-reproduction method is of service in ascertaining the present value of the plant, when it is reasonably applied and when the cost of reproducing the property may be ascertained with a proper degree of certainty. But it does not justify the acceptance of results which depend upon mere conjecture. It is fundamental that the judicial power to declare legislative action invalid upon constitutional grounds is to be exercised only in clear cases. The constitutional invalidity must be manifest, and if it rests upon disputed questions of fact the invalidating facts must be proved. And this is true of asserted value as of other facts.

The evidence in these cases demonstrates that the appraisements of the St. Paul and Minneapolis properties which were accepted by the master were in substance appraisals of what was

considered to be the peculiar value of the railroad right of way. Efforts to express the results in the terms of a theory of cost of reproduction fail, as naturally they must, to alter or obscure the essential character of the work undertaken and performed. Presented with an impossible hypothesis, and endeavoring to conform to it, the appraisers—men of ability and experience—were manifestly seeking to give their best judgment as to what the railroad right of way was worth. And doubtless it was believed that it might cost even more to acquire the property, if one attempted to buy into the cities as they now exist and all the difficulties that might be imagined as incident to such a “reproduction” were considered. The railroad right of way was conceived to be a property *sui generis*, “a large body of land in a continuous ownership,” representing one of the “highest uses” of property and possessing an exceptional value. The estimates before us, as approved by the master, with his increase of 25 per cent in the case of the Duluth property, must be taken to be estimates of the “railway value” of the land; and whether or not this is conceived of as paid to other owners upon a hypothetical reacquisition of the property is not controlling when we come to the substantial question to be decided.

That question is whether, in determining the fair present value of the property of the railroad company as a basis of its charges to the public, it is entitled to a valuation of its right of way not only in excess of the amount invested in it, but also in excess of the market value of contiguous and similarly situated property. For the purpose of making rates, is its land devoted to the public use to be treated (irrespective of improvements) not only as increasing in value by reason of the activities and general prosperity of the community, but as constantly outstripping in this increase all neighboring lands of like character devoted to other uses? If rates laid by competent authority, state or national, are otherwise just and reasonable, are they to be held to be unconstitutional and void because they do not permit a return upon an increment so calculated?

It is clear that in ascertaining the present value we are not limited to the consideration of the amount of the actual invest-

ment. If that has been reckless or improvident, losses may be sustained which the community does not underwrite. As the company may not be protected in its actual investment, if the value of its property be plainly less, so the making of a just return for the use of the property involves the recognition of its fair value if it be more than its cost. The property is held in private ownership and it is that property, and not the original cost of it, of which the owner may not be deprived without due process of law. But still it is property employed in a public calling, subject to governmental regulation, and while under the guise of such regulation it may not be confiscated, it is equally true that there is attached to its use the condition that charges to the public shall not be unreasonable. And where the inquiry is as to the fair value of the property, in order to determine the reasonableness of the return allowed by the rate-making power, it is not admissible to attribute to the property owned by the carriers a speculative increment of value, over the amount invested in it and beyond the value of similar property owned by others, solely by reason of the fact that it is used in the public service. That would be to disregard the essential conditions of the public use, and to make the public use destructive of the public right.

The increase sought for "railway value" in these cases is an increment over all outlays of the carrier and over the values of similar land in the vicinity. It is an increment which can not be referred to any known criterion, but must rest on a mere expression of judgment which finds no proper test or standard in the transactions of the business world. It is an increment which in the last analysis must rest on an estimate of the value of the railroad use as compared with other business uses; it involves an appreciation of the returns from rates (when rates themselves are in dispute) and a sweeping generalization embracing substantially all the activities of the community. For an allowance of this character there is no warrant.

Assuming that the company is entitled to a reasonable share in the general prosperity of the communities which it serves, and thus to attribute to its property an increase in value, still the increase so allowed, apart from any improvements it may make,

can not properly extend beyond the fair average of the normal market value of land in the vicinity having a similar character. Otherwise we enter the realm of mere conjecture. We therefore hold that it was error to base the estimates of value of the right of way, yards and terminals upon the so-called "railway value" of the property. The company would certainly have no ground of complaint if it were allowed a value for these lands equal to the fair average market value of similar land in the vicinity, without additions by the use of multipliers, or otherwise, to cover hypothetical outlays. The allowances made below for a conjectural cost of acquisition and consequential damages must be disapproved; and, in this view, we also think it was error to add to the amount taken as the present value of the lands the further sums, calculated on that value, which were embraced in the items of "engineering, superintendence, legal expenses," "contingencies" and "interest during construction."

§ 1092. Federal Court.

In the Alabama railroad rate cases the value of railway land was estimated by the special masters according to the strict reproduction method.¹⁵ This method was approved by the Federal Court.¹⁶ Special Master Thorington did not personally approve the reproduction method as applied to railway land, but felt that the decisions of the courts sustained that method. In the Central Georgia Railway case he says (at pages 122-123):

¹⁵ *South and North Alabama Railroad Company v. Railroad Commission of Alabama*, United States Circuit Court, Middle District of Alabama, Report of William A. Gunter, Special Master in Chancery, 1911.

Louisville and Nashville Railroad Company v. Railroad Commission of Alabama, same court and Special Master as above, 1911.

Central of Georgia Railway Company v. Railroad Commission of Alabama, United States District Court, Middle District of Alabama, Northern Division, Report of William S. Thorington, Special Master, January 8, 1912.

Western of Alabama Railway Company v. Railroad Commission of Alabama, same court and Special Master as above, April 3, 1912.

¹⁶ *Louisville and Nashville Railroad Company v. Railroad Commission of Alabama*, 196 Fed. 800, April 5, 1912; *Western Railway of Alabama v. Railroad Commission of Alabama*, 197 Fed. 954, May 27, 1912.

In this connection the special master suggests to the court that the cost to reproduce the property is one thing, and the present value of the property devoted to the public use is another thing; the cost to reproduce is merely one circumstance to be looked to in determining the actual present value; while the damages to adjacent property or the additional price the railroad may be required to pay over actual acreage value may properly enter into the cost to reproduce the right of way, yet it constitutes no part of actual value of the right of way which is devoted by the railroad in its business to the use of the public. The right of way acreage has a fixed value in the market, and the fact that in acquiring it at such fixed market value the railroad company is compelled to pay a further sum for its acquisition, not because such further sum is any part of the actual value, but merely because by the acquisition of the right of way other property not acquired is damaged, and such damages must be paid for, or because such further sum is necessary to be paid over and above acreage value because it is a railroad company making the purchase, adds nothing whatever to the actual acreage value, which last-named value alone is to be considered in estimating the present value of the property devoted to the public use.

It is, however, proper to add that right of way values including estimates for damages to property not taken, or excess cost that railroads are compelled to pay in order to acquire right of way property needed by them for railroad use, have been recognized by some courts, and some railroad commissions, and such excess cost was held to properly constitute part of the right of way valuation for rate purposes. In *Shepard v. Northern Pac. Ry. Co. et al.*, 184 Fed. 765, it is said the evidence was conclusive "that every railroad company is compelled to pay more than the normal market value of property in sales between private parties for the irregular tracts it needs and acquires for rights of way, yards and station grounds. . . . The measure of the value of real estate is its market value for its most available use."

In view of the above holding and a like holding in some other cases the special master, waiving his individual opinion on that

question, proceeds further with the consideration of right of way values.

He concludes that the following allowances should be made (at pages 124-125):

From the above statement of right of way values in the farming or country sections on all the complainant's eight lines of railway in Alabama there is derived an average value per acre for such right of way lands of \$81.10, including damages or excess cost for railroad use, which average value in the opinion of the special master is unreasonably high. A fair average market value for such right of way property, per acre, would be from twenty to twenty-five dollars per acre, and from fifteen to twenty dollars per acre a fair allowance for so-called damages.

Twelve dollars and fifty cents per acre for land in the country and \$13.50 per acre for land in cities was added to the estimated market value in both the Central of Georgia Railway Company case and the Western of Alabama Railway Company case.

Montana, Wyoming and Southern Railroad Company v. Board of Railroad Commissioners of Montana¹⁷ involves a valuation for rate purposes. The district court enjoined the enforcement of a rate fixed by the Montana Commission. In determining the value of real estate used for railroad purposes the court approved the rule of taking twice the value of adjacent property as the value of the right of way, and one and one-half times the value of adjacent property as the value of right of way and terminals in the vicinity of towns. Circuit Court Judge Hunt says (at page 1001):

The master's finding of \$78,207 as the value of the real estate for railroad purposes appears to be sustained by evidence and to have been arrived at by consideration of the fair value of the land taken and the damages to the residue in consequence

¹⁷ 198 Fed. 991, March 30, 1912.

of a part of the tract having been taken for railroad purposes. The rule adopted was that for the use of the railroad twice the value of acreage property should be paid and one and one-half times the value of the property for station and grounds in the vicinity of towns.

*Chicago and Northwestern Railway Company v. Smith*¹⁸ involves the constitutionality of passenger rates fixed by the South Dakota Railroad Commission and by the legislature. A 2-cent-per-mile rate fixed by the legislature was found to be unconstitutional, but the 2½-cent rate fixed by the Railroad Commission was sustained. The master's report in this case submitted prior to the decision of the United States Supreme Court in the Minnesota Rate Cases followed the reproduction method in estimating the value of railway land. The market value of adjacent land was multiplied by 2½ to obtain its reproduction cost, and to this amount overhead percentages, amounting to 14 per cent, were added. On the authority of the Minnesota Rate Cases the District Court rejects this method of valuation, and reduces the master's valuation of railway land from \$3,449,826 to \$1,377,960. A further reduction of \$290,061 is made on account of overhead percentages. District Judge Willard says (at pages 637, 638-640):

To this item the company does not object. It is willing to accept as the value of the right of way, station grounds, etc., the amount fixed by the state's witnesses, namely, \$3,458,140. The state, however, does now object, because in reaching that amount its witnesses made use of multipliers, a practice which it says was condemned by the Supreme Court in the Minnesota Rate Cases. . . .

But after obtaining these results the state's witnesses mul-

¹⁸ 210 Fed. 632, January 20, 1914.

multiplied their amount by $2\frac{1}{2}$ and the company's witnesses multiplied their amount by 3. The result thus obtained by the state before the acreage was revised was \$1,292,483 as the value of the right of way outside of cities and villages. The company now contends that this sum should be accepted as such value. The defendant's claim is that the evidence in this case is essentially different from the evidence in the Minnesota Rate Cases; that there is here proof of the actual market value of contiguous lands, which did not appear in that case. Witt, the state's witness, testified with regard to multipliers as follows:

"You may state why you apply any multiple at all, instead of using just simply the straight acreage value, Mr. Witt. A. It is a well-known fact and I personally know of instances where a railway company has had to pay a sum in excess of the value of the property for ordinary farm purposes, on account of the damage that is done to adjacent property, and for various reasons, such as the desire to get a certain location, and it is my belief that the multiple should be used above the value as farm property. . . . I determined the multiple to be used, if any should be used, by investigating what had been determined by the railroad commissions in making similar valuations of railroad property, and also secured the records of transfers that had been made of property in this state to railroads within the last few years that have built new lines in this state, and, by a comparison of this value with the value as determined from the transfers of adjacent property on file in the offices of the registers of deeds of the different counties; we decided by adopting the ratio of 2.5 we would come, approximately, as close as possible to the average multiple value or value which the railroad would probably be required to pay for such property. The average value of the state worked out \$32 an acre approximately. Taking the acreage of 16,138.6, multiplying that by 32, and by the multiple $2\frac{1}{2}$, gives a value of \$1,292,483." . . .

Other right of way agents of the railroad company testified to the same effect. (Cleveland, pp. 734-737; Treadway, pp. 745, 746.)

From this evidence the company argues that it is unfair to

say that for a strip of land 100 feet wide through the middle of a 160-acre farm it should be allowed no more as the cost of reproducing it than the price per acre if the whole farm were to be bought; that it is a matter of common knowledge that, if a private individual wanted to buy such a strip, it would cost him much more per acre than the value per acre of the whole farm.

It is true that the evidence in this case does differ from that in the Minnesota Rate Cases, and there is much force in the company's argument. But the defendant's claim in this respect is disposed of by what the Supreme Court, in the Minnesota Rate Cases, 230 U. S. on page 455, 33 Sup. Ct. on page 763, 57 L. Ed. 1511, said. . . .

I, accordingly, adopt the valuation placed upon these lands by the state before any multiplier is used, namely, \$516,079.

Item 1 as thus revised gives therefore these results:

Station grounds.....	\$849,581
Right of way outside station grounds.....	516,079
Gravel pit.....	12,300
	<hr/>
	\$1,377,960

The master accepted as the cost of reproduction of right of way in its present condition the sum of \$3,449,826. This has now by the elimination of the use of multipliers been reduced to \$1,377,960. There was therefore the sum of \$2,071,866 included by the master in his total valuation which should not have been included. Upon this sum of \$2,071,866 the percentages in items 23A and 29 amounting to 14 per cent were allowed. This allowance, to wit, \$290,061, also should be deducted from the total cost of reproduction of the railroad property as found by the master. The sum so found by him was \$22,598,602. Deducting the sums of \$2,071,866 and \$290,061, there is left the sum of \$20,236,675, which sum I adopt as the cost of reproduction of the railroad in its present condition.

§ 1093. California Commission—Method of determining reproduction cost—Fair value may be less than market value.

In the matter of ascertaining the value of the property of

the Stockton Terminal and Eastern Railroad Company ¹⁹ the Railroad Commission of California makes certain findings of fact as to certain elements usually considered in determining railway value for any purpose. The Commission, however, refrains from making a finding as to the value of the property either for rate purposes or for any other purpose. The Commission includes a finding as to the reproduction value of the right of way and station grounds. Such reproduction value is determined as follows (page 221):

By the means hereinbefore indicated, the department ascertained the market value of the property at the time of its acquisition, which market value was found to be 103 per cent of the money actually paid for the property. It should be borne in mind, however, that a large portion of the property was donated and that no account is taken of this property under the head of original cost. After ascertaining the market value of the property at the time of its acquisition, the department also ascertained the market value as of June 30, 1912, and then multiplied that value by 1.5. This multiple was applied for the reason that the investigations of the department throughout the state show that on an average it costs one and one half times the normal market value of abutting property to acquire right of way in country districts by purchase or condemnation for railroad purposes. In the absence of more definite information as affecting this particular railroad, this average multiple was used.

Valuation of Tonopah and Tidewater Railroad Company ²⁰ is a proceeding on the motion of the California Railroad Commission to ascertain various elements entering into the value of the company's property. Findings were made as to facts, but not on the question of the value of the property irrespective of the purposes for which

¹⁹ 2 Cal. R. C. 777, 19 A. T. & T. Co. Com. L. 208, April 30, 1913.

²⁰ 3 Cal. R. R. C., 22 A. T. & T. Co. Com. L. 1064, July 29, 1913.

the value may be used. The Commission makes a finding of fact as to the cost to produce the railroad right of way, and in doing so refers to the Minnesota Rate Cases recently decided by the Supreme Court of the United States. The Commission states that considerations of justice may require that in future rate-making proceedings the fair value of railway land may be taken at even less than the "fair average market value of similar land in the vicinity." Commissioner Thelen in delivering the opinion of the Commission says (at page 1074):

In the Minnesota Rate Cases the Supreme Court found that it would not be fair to take as the basis for fixing rates the "reproduction value" of the real property as found by the lower courts. Under all the circumstances of the case, the Supreme Court found that the railroad companies would be receiving at least all to which they were entitled if they were given, in the rate-fixing inquiry, a value "equal to the fair average market value of similar land in the vicinity, without additions by the use of multipliers, or otherwise, to cover hypothetical outlays." There is much reason in support of this ruling. The unearned increment of land is growing so rapidly that if public utilities in rate-fixing inquiries were allowed not merely the fair average market value of similar lands in the vicinity, including the unearned increment, but also multiples in addition thereto, rates might soon go so high that it would be impossible for the public to pay them. It may well be that in rate-fixing inquiries which may hereafter come before rate-fixing bodies, both state and national, justice to the public may demand that the basis of return on real property shall be less even than the "fair average market value of similar land in the vicinity," including the unearned increment. If we bear clearly in mind the distinction between a fact, namely, the cost of reproducing real estate, and the entirely distinct matter of ascertaining the proper basis for fixing rates in any particular case, we shall not be led astray. As I am finding facts in this case, and not saying how they should be applied in a rate-fixing inquiry, I find that

the operative real property owned by the railroad company in this proceeding based on the "fair average market value of similar land in the vicinity," is the sum of \$5,187 and that the cost to reproduce said property is the sum of \$5,682.

§ 1094. Maryland Commission—Market value.

Bachrach v. Consolidated Gas, Electric Light and Power Company of Baltimore ²¹ is a rate case. Although the Commission made a valuation of the property of the company, such valuation did not have a very important bearing on the conclusions reached. The Maryland law provides that so far as possible the Commission shall not disturb the value of the company's bonds. In the present case the rate fixed was based largely upon a consideration of the amount required to safeguard the value of the bonds. In valuing land the Commission rejects an estimate based on market value plus the cost of obtaining the identical parcel at the present time. The Commission says (at page 171):

The difference of \$328,784 in these estimates is mainly due to the different methods pursued by the appraisers, Caughy estimating what he thought it would cost the company to obtain the properties at the present time and under the conditions of hold up, etc., which it might encounter in its dealings. Lindsay estimated the market value, and as to that he and Caughy were in practical agreement. We think Lindsay's is the proper valuation.

§ 1095. Michigan Commission—Capitalization of costs incident to acquisition of land.

The application of the Northern Michigan Power Company ²² involves an approval by the Michigan Railroad

²¹ 14 A. T. & T. Co. Com. L. 154, January 13, 1913, Maryland Public Service Commission.

²² Application of the Northern Michigan Power Company for authority to issue stocks and bonds, 19 A. T. & T. Co. Com. L. 244, June 11, 1913, Michigan Railroad Commission.

Commission of the proposed capitalization of a hydro-electric enterprise. The Commission held that lands should be capitalized at their fair market value as represented by their initial cost, plus reasonable compensation for the time, energy and ability bestowed in their acquisition, for the risk involved and for the use of capital invested during the interval that must elapse between the inception of the project and the final utilization of the land. Commissioner Hemans in delivering the opinion of the Commission discusses this subject as follows (at pages 251-253, 254):

We believe that the lands described in the application herein should be capitalized at their fair market value, as represented by their initial cost, plus reasonable compensation for the time, energy and ability bestowed in their acquisition, for the risk involved and for the use of the capital invested during the interval that must elapse between the inception of the project, in carrying forward negotiations and purchases of distinct parcels, and their final utilization as an assembled whole. It may be contended that the various elements which it is suggested should form the basis of the capitalization allowed for lands and flowage rights are, except as to initial cost, as definite as capitalization computed upon any of the bases which the Commission rejects, but the Commission is persuaded that with the various elements stated, disproportion between them, if any exists, becomes more apparent with correspondingly greater certainty in arriving at correct values.

It is not to be understood from the foregoing that the Commission holds that the initial cash payment for lands of the character involved is to be considered, of necessity, the all-controlling factor in the fixing of their value for purposes of capitalization. Cases can be readily imagined where the cash cost of the physical property embraced in the lands and flowage rights was the least important of the factors enumerated. Indeed, the tract of land under consideration partakes strongly of this character. It is located in a comparatively undeveloped

portion of the state; although in close proximity to the copper mining district of the state, and possessed of some timber value, the physical features of the greater portion of the tract are such as to make it unsuited for agricultural purposes. Compared with like areas alike suitable for water power development in older and more populous districts, the market value of the land is markedly less. The record does not disclose the exact cost of the assembled lands, although it does appear that they have been acquired at prices ranging from ten to one hundred and seventy dollars per acre, and that more than thirty thousand dollars was expended for lands at the last named sum. We are satisfied, from the record, that the sum of five hundred thousand dollars would amply cover the cash outlay for the purchase of the lands. But it appears that the work of acquiring the titles has been in process since 1902, a period of more than ten years. If interest upon the real estate investment be allowed at six per cent for half the time, which would seem to be just, it represents the sum of one hundred and fifty thousand dollars. The extended area of the lands necessary for this development have required, as the record shows, the making of several surveys, the prosecution of legal proceedings, and extended negotiations with more than one hundred separate owners of distinct parcels, who have been found as widely scattered as the boundaries of the Union. Under the laws of this state, the powers of eminent domain are not accorded corporations which seek to develop hydraulic utilities. The last description of land necessary for the purposes of the enterprise must be acquired by purchase before the project is assured, and while the element of risk involved in the ultimate purchase of so large a body of lands, held under such diversity of ownership, is difficult to estimate in dollars and cents, it is still a risk that is very real, and which enters materially into the value of the property acquired. Another item which it seems to the Commission is properly included in the value of lands for hydraulic purposes, under the Commission's general designation of "reasonable compensation for the time, energy, and ability bestowed in their acquisition," is the item quite generally denominated "promoter's profit," but which this Commission believes would be more truly de-

scriptive if denominated "cost of promotion." The man who devotes his genius to enlisting support for great enterprises of public benefit, which his clearer foresight and keener vision has first perceived in the great world of material development, has performed services quite as valuable to the public as the engineer who later makes computations, plans and specifications, or the man who in any other position contributes to the creation of the utility. . . .

In accordance with the foregoing considerations, and in the absence of exact data upon which we may base our finding for this element, we believe that capitalization for land values and flowage rights fixed upon the basis of

Original land cost	\$500,000
Service in acquiring	500,000
Interest during purchase	150,000
Cost of promotion	300,000
Total	<u>\$1,450,000</u>

will be doing substantial justice to both petitioner and to the general public who must support the capitalization through rates and charges.

§ 1096. New Jersey railroad tax appraisal, 1911—Reproduction method rejected.

Under authority of a special act of the New Jersey legislature the railroads of the state were revalued for tax purposes in 1911. The valuation was designed to include both tangible and intangible property used for railway purposes. Charles Hansel, expert in charge of the valuation, states in his report that the value of land was not determined by the reproduction method, but was based upon the market value of neighboring land. Mr. Hansel discusses this subject as follows (at pages 67, 69–70):²³

The opinion of the New Jersey Supreme Court, delivered by

²³ Report on Revaluation of Railroads and Canals, New Jersey, 1911, by Charles Hansel, Expert in Charge.

Justice Garrison, from which we have quoted above, has been sustained by the Court of Errors; and, since we are required to find the value of "the remaining property, including the franchise," we consider that the "true value" of the land can only be determined under the law entirely apart from its use for railroad purposes.

Having eliminated the element of use, we reduce the question to the naked value of the land, apart from the improvements thereon, and disregard the cost to acquire for railroad purposes. We are not instructed to determine the cost to produce the land. We are required to determine the value.

The land in the main stem of a railroad is *not* a continuous strip, and would not be available for railroad use unless it was welded together by the sovereign power of the state.

The right of way is frequently broken by cross streets, streams and rivers. The power to cross these streets and waterways is given by the state through the charter to build and operate a railroad. The main stem land is, therefore, merely broken sections or strips of land, and any additional value it may have over the contiguous lands, by reason of the closing of the gaps by the power of the state, is, we think, reflected in the value of the remaining property, including the franchise. . . .

No per cent has been added to the value of lands in excess of the value in exchange for money, as near as such value can be determined by the exchange price of lands adjoining the lands of the railroad in each particular taxing district, and at each particular point where such lands adjoin railroad lands. The cost of acquiring the land has not been taken into consideration, as has been frequently done by other states which have attempted to determine the value of the physical property of railroads, excepting that administration and interest at 7 per cent has been added to land in main stem. It is generally conceded that a railroad seeking to acquire rights of way through a village, town or city, or through a well-improved and highly developed farming section, must pay, for the land necessary for the right of way, a sum considerably in excess of the rate of the going price of the property they desire to acquire; and, in many cases, where a community is in great need of railway

facilities, the cost of acquiring the land is considerably below the value of the adjoining lands. . . .

The law tells us to eliminate, from our consideration, the purpose to which the land is applied. Therefore, we have valued the land stripped of all improvements as a piece of naked land, in the open market, for any reasonable purpose to which it may be applied. The presence of a railroad, with its embankments, permanent way and structures, and the operation of traffic over same, may depreciate or appreciate the value of the adjoining lands; consequently, the "true value" is so closely interwoven with the value for a specific purpose that it is difficult to determine whether the value of the adjoining lands would be enhanced or depreciated by the absence of the railroad, with its embankments, and the operation of trains over same.

§ 1097. New Jersey Commission—Market value.

In *Re Rates of the Public Service Gas Company*²⁴ the New Jersey Board of Public Utility Commissioners fixed the value of land at \$111,160. This is less than one-fourth of the amount claimed by the company. The witnesses for the company confined their testimony to reproduction value and in each case compiled an estimate of value on some theory involving the reproduction of a site similarly located and of equal area. Two of the witnesses assumed that buildings would have to be removed in order to prepare the site for the gas company and consequently included the cost of such buildings and their removal in the estimate. The Board apparently rejects these theories as to reproduction value, saying (at page 447): "Much of the testimony with reference to land values referred to the cost of reproducing a similar site, under conditions which we do not think would obtain, and did not purport to be an estimate of the actual value of present property." The value fixed by the Commission is evidently based on

²⁴ 1 N. J. B. P. U. C. 433, December 26, 1912.

present fair market value including in such value an allowance in certain cases of 10 per cent for plottage.

The case of *Gately & Hurley v. Delaware and Atlantic Telegraph and Telephone Company*²⁵ involves the valuation of a telephone plant for rate purposes. The existing rates charged by the company were upheld by the Board, as they netted the company considerably less than the amount determined by the Board to be a fair return upon the fair value of the property. In this case the company claimed an allowance amounting to 18 per cent over the realty expert's appraisal of the land. This allowance was to cover engineering expense, executive expense, contingencies and omissions, and interest during the construction period. The Board allowed 3 per cent to cover legal expenses, costs of searches, title insurance and brokers' fees, but refused an allowance for other purposes. The Board says (at page 555):

If expert and impartial appraisers substantially agree on the value of the company's land at present, such estimate includes within itself all allowances that can fairly be asked. Whatever the causes, the correct present-day valuation of the land sums up all of the factors, positive and negative, which have gone to determine the land's total value.

²⁵ 1 N. J. B. P. U. C. 519, January 7, 1913.

CHAPTER VII

Pavement Over Mains

§ 1109. Federal Court.

1110. California Commission.

1111. Indiana Commission.

1112. Maryland Commission.

1113. New Jersey Commission.

1114. New York Commission, Second District.

1115. New York Appellate Division and Court of Appeals.

1116. New York Appellate Division—Special franchise tax case.

1117. Wisconsin Commission—Rate cases.

1118. Wisconsin Commission—Purchase cases.

1119. Wisconsin Commission and Supreme Court—Pavement over services excluded in purchase case.

§ 1109. Federal Court.

Des Moines Gas Company *v.* City of Des Moines ¹ involves the valuation of a gas plant for rate purposes. Many of the streets which were unpaved at the time the mains were laid have since been paved at the expense of the city. The cost of reproducing this pavement laid without expense to the company was estimated at \$140,000. The total value allowed by the special master was \$2,240,928. In this amount the master did not include the above estimate of cost of reproducing the pavement, and in so doing was sustained by the court. The court criticizes the reproduction method as applied to pavement over mains. District Judge Smith McPherson says (at pages 207-208):

It is claimed the true value of any building, structure, or plant is that sum which it takes to reproduce it, less the depreciation of the one to be replaced. But little assistance is

¹ 199 Fed. 204, August 21, 1912.

obtained from the authorities, although it is claimed the case of *Willcox v. Consolidated Gas Company*, *supra*, is in point. The opinion does not show this to be so. Something of a showing is made in favor of that contention, by going to the original record and the assignments of error. But it is not easily understood how the Supreme Court in that great case, so ably argued, with so much involved, meant to be so understood without expressly so declaring in the opinion. No one doubts but that the cost of reproduction may in many cases be considered, and in some cases is a solution of the controversy.

What makes value, and what is the evidence thereof? Metaphysical distinctions as to terms as used with reference to value by political economists aid but little. Exchange value, selling value, cost value, value for use as an utility, value as to incomes, and so on, are too often used loosely. But the question is as to its value to-day with reference to income. What it may have cost is pertinent. What it will sell for is to be considered. And if destroyed by any agency, such as rust, crystallization, or other forces, what must be paid to reproduce it is a subject of inquiry. All of these may be considered. In my opinion, those who maintain that what it will cost to reproduce the plant, less depreciation, is the true value, in many instances confound the real question with one of many evidences of the real value. Reproducing cost is an evidence of what the real value is after subtracting the depreciation. But what is to be done with the value of stocks and bonds on the reproductive theory? And what becomes of the original cost on the reproduction theory? And what becomes of the question of the increase or falling off in numbers of consumers? And the same as to increased or diminished expenses?

The theory at first thought in all cases is plausible and attractive, but in the end oftentimes utterly illogical and unreliable, originally adopted as a mere time-saver by mere theorists, and sought to be enforced as against substantial and unbending facts. If the plant is to be reproduced, when is it to be done? If, when reproduced, will the streets then be paved, and, if paved, paved with what? Must it all be reproduced at once, or the same covered by a number of years? If but gradu-

ally reproduced, why should not such cost go into either the operating or maintenance accounts? No one can state when it must be reproduced, and a material question arises: What, then, as compared with the present, will be the price of labor, material, and freight? But finally and to my mind the conclusive reason against the soundness of the reproduction under paved streets is that to allow that theory to prevail, and to increase the capitalization now to the extent of \$140,000, is to allow such gas rates as will pay a dividend on such sum from and after this date. But the sum of \$140,000 is not put in the capital or value account until the plant is reproduced. As of course, streets paved or unpaved make no difference in the earning power of the gas plant, and but little, if anything, goes more directly and accurately to the question of value of any structure or plant than its rental, earnings, or as a dividend producer.

There are many instances in which the reproduction theory is the best of all methods for getting at the present value, and in other instances the most misleading. And it is deceptive, in my opinion, to now add the cost of taking up and replacing pipe under paved streets at an estimated cost of \$140,000 extra, and does not warrant an increased dividend of \$8,400 or some greater sum. Such a dividend is a mere paper dividend, and is arrived at, not because of increased earnings, not because of increased capital or investments, not because of increased operating or maintenance expenses, but solely by reason of a supposed necessity of at some time, in some manner, under a then some kind of street, on a mere guess of what labor and material would then cost. Many of the principles with relation to railway rates are applicable to gas rates. And perhaps the latest analysis of the reproduction theory is found in the recent case of *Louisville R. R. v. Railway Commission* (D. C.), 196 Fed. 800, in an opinion of Judge Jones of the Alabama district. He shows the value of this theory, but likewise shows that it is not a hard and fast rule covering all phases. Finally, pipes under a paved street are of very long life, many times longer than if the streets were not paved. The theory applied to paved streets is but a theory, is illogical and against facts, and was properly denied by the master.

§ 1110. California Commission.

*City of Palo Alto v. Palo Alto Gas Company*² involves the valuation of a gas plant for rate purposes. The Commission did not include an allowance for pavement over mains laid without expense to the company, and apparently the company's expert did not claim an allowance for such paving. Mr. C. L. Cory, the witness for the company, made an estimate of the cost of reproducing the plant to-day under the conditions that were existent at the time the plant was constructed in so far as possible. In such reproduction cost he included no allowance for paving or repaving, for the reason, as stated by him, that "it would seem that the amount of cutting of pavements of any kind at the time your distribution system was installed was of no considerable moment, although since the laying of your distribution system considerable paving has been put over them." In regard to this question Commissioner Thelen says (at page 976):

If the cost of reproducing the plant new were the sole fact to be ascertained in determining the proper basis on which to fix rates, it might be logical to include the entire amount for tearing up and relaying pavement as estimated by Mr. Kelley. In view of the fact, however, that other elements, including original cost, must be considered, and that the amount actually expended by the gas company for this purpose was only \$1,198.24, it would seem more proper in determining the basis for fixing rates to follow the course pursued by Mr. Cory and not to include an amount for tearing up and relaying pavement in excess of the amount actually expended therefor.

*San José v. The Pacific Telephone and Telegraph Company*³ involves the valuation of a telephone plant for rate purposes by the California Railroad Commission. The

² 2 Cal. R. C. 300, 18 A. T. & T. Co. Com. L. 968, March 12, 1913.

³ 3 Cal. R. C. —, 24 A. T. & T. Co. Com. L. 370, October 9, 1913, California Railroad Commission.

Commission held that pavement over mains laid without expense to the company is properly a part of reproduction cost, and consequently an element which under the rulings of the courts can not be wholly disregarded. However, actual cost is the more important element in determining reasonable rates, and where actual cost is known it should be given greater consideration than a reproduction cost that is not based on the conditions under which the property was actually developed. Commissioner Eshleman says (at pages 379-380, 381):

The Commission's engineer has disallowed the sum of \$4,639 which is represented by the laying of conduits under pavement in the estimates of the engineer of the defendant where the evidence shows that no pavements existed at the time the conduits were put in. This difference of opinion between the engineer of the Commission and the telephone company illustrated very forcibly the confusion which apparently exists in the minds of both the courts and the engineers between cost and value. Counsel for the telephone company seriously contends that the putting of pavements above conduits after they are laid represents an appreciation in the *value* of the property. Of course such is not the case, but when this condition exists it certainly is true that the cost to reproduce the property in its present condition would be more than the actual cost incurred in the original production of such property. If cost of reproduction is to be the basis upon which rates shall be computed, the engineer of the Commission, in my opinion, in this regard is wrong; while if value is to be considered, as the courts have suggested, the engineers of the telephone company are wrong. As I suggested in Application No. 118, value as ordinarily conceived can not be used as a basis for fixing rates of a public utility, because the ordinary conception of value is that for which anything will sell, which of course is largely determined by the earning power of the agency in question. Cost of reproduction of a property is to be considered merely because it serves as an indication of what has been invested in the property, and

not what the property is worth, as worth is generally understood. But holding the view that cost more largely determines the basis upon which rates shall be fixed, I can not reject the other elements which the courts have said we must consider, and do not propose to do so. . . .

. . . I do not believe that items such as this should be allowed under any theory of rate-making, but I do believe that they should appear in an engineer's cost of reproduction, which, as I have already said, does not lead me to conclude that items such as this should be allowed in making up the amount upon which earnings shall be permitted. Suppose we are considering a public utility, as is often the case, where the condition under which the original expenditure was made is not known. With reference to such utility we attempt to reproduce cost conditions by getting the cost to reproduce the property in its present condition and deduct therefrom such amounts as are found to be necessary by reason of depreciation in property and to get thereby what the engineers call "present value," which is not value at all but which has as its primary conception cost. Such present value is often misleading and does not reproduce the actual conditions we are seeking to reproduce because of the very fact, as illustrated by this dispute between the engineers here, that estimated conditions of original construction are reached and not actual conditions.

My disposition is to disallow this item, but I do so neither on the theory of the company nor our own engineering department, for the reasons hereinbefore just discussed.

§ 1111. Indiana Commission.

Union City *v.* Union Heat, Light and Power Company ⁴ is a rate case before the Indiana Public Service Commission, and involves a valuation of natural gas property. The Commission refused to include the cost of pavement over mains laid without expense to the company. The Commission says:

⁴ Union City *v.* Union Heat, Light and Power Company, 5 Rate Research, 68, February 7, 1914.

The evidence further shows that all the pipe under paved streets had been laid before the streets were paved and it does not show that such pavement was made at the expense of the respondent. We think it clear that since the company was not burdened with this expense, they should not be allowed to add it to the value of the plant, and thereby assess the public for a charge never incurred by them. Since the life of this plant is only estimated at eight or ten years, for the production of natural gas, it is unlikely that this pavement will have to be taken up and relaid by the company in the installation of new mains.

§ 1112. Maryland Commission.

*Thompson v. Cambridge Water Company*⁵ involves the valuation of a water plant for rate purposes. The Commission refused to include in fair value the cost of pavement laid without expense to the company. Commissioner Timanus says (at pages 569-570):

Mr. Jordan included in his estimate an item of \$20,565 as the cost of tearing up and repaving the streets; and learned counsel for the respondent earnestly contended in their brief that this is a proper item to be allowed, claiming that in order to reproduce the property as it stands it would be necessary to remove and replace the streets wherever the company's mains and pipes are now laid. While it is true that were this company not already in the field, and were it necessary for it or some other company to reproduce the property as it stands, it would be necessary to remove and replace the paving of the streets where its mains and pipes have heretofore been laid. It is to be borne in mind that the real effort of the Commission in all investigations of this character is to ascertain the fair value of the property actually used in the public service, and that the cost of reproducing such property is only one of the many elements to be considered in determining what is that actual value. The reproduction value is not in itself the actual value; it simply reflects upon that value, just as it would reflect upon the

⁵ 24 A. T. & T. Co. Com. L. 564, August 27, 1913, Maryland Public Service Commission.

market value, if market value were the inquiry. The mains and pipes of the Cambridge Water Company were laid before the streets of Cambridge were paved with improved paving. The tax-payers of Cambridge paid for that paving. Mr. Jordan estimates that it would cost \$20,565 to remove and replace that paving in order to duplicate such system of mains and pipes; and counsel for the company in effect contend that for this reason the public, which has paid for the paving, should now pay the company perpetual dividends on this \$20,565 which the company itself has never invested in the enterprise and in all probability never will invest in it. Clearly, this is not a proper item for allowance and should be deducted from Mr. Jordan's estimate.

§ 1113. New Jersey Commission.

In *Re Rates of the Public Service Gas Company*⁶ the New Jersey Board of Public Utility Commissioners takes the ground that pavement over mains and services laid without expense to the company should not be included in a valuation for rate purposes. No estimate was included of the amount or cost of pavement so laid. The Board, however, based its estimate on the actual cost of mains and services constructed during the past eight years. The Board says (at page 463):

With regard to the cost of mains, we have available definite knowledge as to the actual cost during the past eight years, during which time very nearly 30 per cent of the mains now in place were laid. . . . It is an undisputed fact that much of the paving now in place was not paid for by the company, but has been laid by the cities at their expense subsequently to the installation of the mains. We feel that the best guide as to the values is found in the actual cost to the company for that part of the work installed during recent years. As a matter of fact, more paving has probably been paid for by the company in

⁶ 1 N. J. B. P. U. C. 433, 15 A. T. & T. Co. Com. L. 354, December 26, 1912.

recent years than formerly, and any error due to valuing all of the mains by means of unit prices obtained from the books of account for the past few years would err on the side of liberality toward the company.

The case of *Gately & Hurley v. Delaware and Atlantic Telegraph and Telephone Company*⁷ involves the valuation of a telephone plant for rate purposes. The existing rates charged by the company were upheld by the Board, as they netted the company considerably less than the amount determined by the Board to be a fair return upon the fair value of the property. In this case the Board refused to allow the company's claim for \$142,500 to cover the additional present cost of pavement over conduit. The Board says (at page 559):

For the company the contention is made that this enhanced replacement cost of conduit is analogous to the appreciation in value of the company's land. It is the present enhanced value of land on which the company is entitled to earn. Similarly, it is argued, it is the present enhanced replacement cost of conduits on which the company is entitled to earn a return. The doctrine of present replacement cost may easily be pressed to an absurd extreme. Certainly cognizance may be taken of the fact that taxpayers' expenditure, not outlay by the company, has enhanced the estimated replacement cost of particular items.

It might seem at first that some allowance should be made to the company because of this saving effected by careful foresight, but we must not lose sight of the fact that the customers of the company are called upon just that much earlier to provide a return on an investment in conduit not actually needed until a later time.

We are, therefore, not justified in allowing any part of the sum of \$142,500 which would now be required to assist in paying the replacement cost of paving over conduit. The replacement-cost-new for conduit will therefore be \$1,068,923.

⁷ 1 N. J. B. P. U. C. 519, 14 A. T. & T. Co. Com. L. 39, January 7, 1913.

§ 1114. New York Commission, Second District.

In *Buffalo Gas Company v. City of Buffalo*^{*} the company asked the New York Public Service Commission for the Second District to fix a rate for gas supplied to the city of Buffalo. The Commission refused to include in the reproduction cost of the mains the estimated cost of replacing pavements that had been laid without expense to the company. Chairman Stevens discusses this subject as follows (at pages 585-587, 589):

The material facts are:

1. The mains were laid before the pavement was laid, and hence the company incurred no expense in laying the mains by reason of pavement;

2. If the mains were to be laid at the present time in those streets, the company would be obliged to incur an expense in cutting the pavement and replacing the same of \$1,101,564, which expense would be a proper and legitimate charge to fixed capital, and would be a sum upon which the company would be entitled to earn a return of not less than 6 per cent per annum. The question presented is whether this sum should be treated as a part of the present value of the property for the purposes of this case. If it should be so treated, the practical effect would be that it would necessarily and inevitably increase the price of gas per thousand cubic feet upon the basis of the present production, 11 cents: that is to say, every consumer of gas would have to pay 11 cents per thousand cubic feet more for gas if this contention of the Company is allowed than he would have to pay if it were disallowed.

It should be stated at the outset that this item of repaving to the amount named would be a fair and legitimate item in reproducing the plant as it now exists at the present time. If reproduction cost with or without depreciation is the sole test of the present value of the property, then the item must be allowed. If it is not the sole test, then we are at liberty to consider whether

^{*} *Buffalo Gas Company v. City of Buffalo*, 3 P. S. C. 2d D. (N. Y.) 553, 23 A. T. & T. Co. Com. L. 244, February 4, 1913.

or not this repaving affords a just and fair basis in adding to what would otherwise be the price of gas the sum of 11 cents per thousand cubic feet.

We are of the opinion that the charge can not be allowed in this case. It would be unjust and inequitable in the extreme.

A fair statement of the situation is this: If the company has a main laid at the present time in the city of Buffalo, on a street which is unpaved, and its present price of one dollar per thousand cubic feet is a fair and reasonable price to the consumers living upon that street, if the street should be paved to-morrow at the expense of the city at large or of the inhabitants living upon the street, and this without one cent of expense to the company, the company would be justly and fairly entitled, upon its theory, to increase the price of gas to the sum of \$1.11 per thousand cubic feet: and this solely because the people upon the street have chosen to improve their street, and not because of any expenditure of money by the company or any expense to which it had been put. The pavement is not the property of the company. It does not have any power over it except in case it should take up the pipes and leave the street it would be compelled to restore the pavement. Any theory of cost of reproduction or of enhanced value which leads to the conclusion that the consumer must pay this extra 11 cents per thousand because of the paving being placed over the mains is in our judgment radically inequitable and unreasonable; and it is believed that no argument or statement of reasons can add to the force of the statement which has already been made, that the laying of the mains would increase the price to the consumer as stated. . . .

We consider that the clear weight of reason and equity is against the allowance of any sum whatever by reason of such repaving as a basis of increasing the rate which is to be paid for gas.

§ 1115. New York Appellate Division, and Court of Appeals.

In the case of *Kings County Lighting Company v. Willcox*⁹ an order of the New York Public Service Com-

⁹ *Kings County Lighting Company, People ex rel. v. Willcox*, 156 App. Div. N. Y. 603, May 9, 1913.

mission for the First District, fixing the gas rates of the Kings County Lighting Company, was subjected to judicial review pursuant to a writ of certiorari (for extract from opinion of the Commission see § 168). The Appellate Division of the Supreme Court reversed the determination of the Commission, and remanded the matter to the Commission. The Appellate Division held that the Commission erred in refusing to include the cost of reproducing pavement over mains laid at the expense of the city. Judge Clark in delivering the opinion of the court says (at page 610):

While as to other items of physical property the Commission professed to appraise at its full value, and to apply the rule of cost-of-reproduction-new-less-accrued-depreciation, it refused to include in the value of mains under paved streets more than the original cost of repaving when the mains were laid. When the mains were laid the streets were unpaved, sandy tracts in an unbuilt-up community. Mr. Connette, the engineer for the Commission, placed the cost for restoring pavement as it existed when the services were laid at \$12,717. That amount was allowed by the Commission in its valuation. Mr. Baehr estimated the cost of reproducing the existing paving over mains and services as they existed January 1, 1911, at \$264,666. Mr. Connette's figures upon that basis were \$212,808. The relator claims that the valuation should have included this amount to the extent of at least \$200,000.

When this case came before the Court of Appeals ¹⁰ that court reversed the Appellate Division and sustained the ruling of the Commission in regard to pavement over mains. Judge Miller says (at pages 494-495):

In determining the cost of reproduction the Commission allowed \$12,717 as the cost of restoring the pavement as it existed when the mains and service pipes were laid in the streets.

¹⁰ Kings County Lighting Company, People ex. rel. v. Willcox, 210 N. Y. 479, March 24, 1914.

The relator claimed an allowance of at least \$200,000 for the cost of restoring pavements subsequently laid on the theory that that cost would have to be incurred if the mains were to be laid to-day. But the new pavements in fact added nothing to the property of the relator. Its mains were as serviceable and intrinsically as valuable before as after the new pavements were laid. The controlling considerations under the preceding point also determine this. The rights of the public are not to be ignored. The question has a double aspect. What will be fair to the public as well as to the relator? (*Smyth v. Ames*, supra.) Should the public pay more for gas simply because improved pavements have been laid at public expense? It is no answer to say that the new expensive pavements suggest improved conditions which, though adding to the value of the plant, will not, by reason of the greater consumption, add to the expense per thousand feet of the gas consumed. The public are entitled to the benefit of the improved conditions, if thereby the relator is enabled to supply gas at a less rate. The relator is entitled to a fair return on its investment, not on improvements made at public expense. It is said that the mains will have to be relaid. So will the new pavements, and much oftener. Both might possibly be relaid at the same time. The case is not at all parallel to the so-called unearned increment of land. That the company owns. It does not own the pavements, and the laying of them does not add to its investment or increase the cost to it of producing gas. The cost-of-reproduction-less-accrued-depreciation rule seems to be the one generally employed in rate cases. But it is merely a rule of convenience and must be applied with reason. On the one hand, it should not be so applied as to deprive the corporation of a fair return at all times on the reasonable, proper and necessary investment made by it to serve the public, and on the other hand it should not be so applied as to give the corporation a return on improvements made at public expense which in no way increase the cost to it of performing that service.

The Appellate Division felt bound by the decision of the United States Circuit Court in the Consolidated Gas Case (157 Fed. Rep. 849), and it is true that such an allowance was made

in that case. But the United States Supreme Court held in that case (212 U. S. 19) that the rate established was not confiscatory, and did not pass on the propriety of that allowance. What was said in the opinion on the subject of present value was merely a general statement having no necessary relation to the question now under consideration.

§ 1116. New York Appellate Division—Special franchise tax case.

People ex rel. Queens County Water Co. v. State Board of Tax Commissioners ¹¹ is a proceeding to review the action of the State Board of Tax Commissioners in assessing the franchise of the Queens County Water Company. The court held that the reproduction cost of pavement laid without expense to the company should be included in the total reproduction cost in determining the value of a special franchise under the net earnings rule. Judge Kellogg says (at page 185 N. Y. Supp.):

When the pipes were laid in certain streets they were unpaved, and afterward the city paved the streets. In determining the reproductive cost of laying the pipes in those streets the cost of relaying the pavement was not allowed as a part of the reproductive value. We think it should have been. The fact that the paving cost the company nothing is immaterial.

§ 1117. Wisconsin Commission—Rate cases.

The case of City of Milwaukee v. The Milwaukee Electric Railway and Light Company ¹² involves the valuation of a street railway for rate purposes. The Commission issued an order slightly reducing the existing rates of charge. The company contended that the entire cost of pavement laid above conduit and track should be included in the valuation upon the basis of cost-of-reproduc-

¹¹ 157 App. Div. 165, 142 N. Y. Supp. 180, May 22, 1913.

¹² 11 W. R. C. R. 1, 14 A. T. & T. Co. Com. L. 197, August 23, 1912.

tion-new, irrespective of whether such paving had been laid by the city or by the company. The Commission states that in conformity with its previous decisions only paving laid by the company should be included in value for rate-making purposes. The Commission says (at page 116):

Heretofore, in cases before the Commission only the actual paving laid by the company has been included in the value for rate-making purposes and we see no reason for a departure from that rule in the present case. As has been held in *City of Ripon v. Ripon Lt. & W. Co.* 1910, 5 W. R. C. R. 1, 10, decided March 28, 1910:

“Every legitimate expenditure in adapting the utility to the demands of progress and community growth is a proper charge to construction, and as such the investment therefor is entitled to participate in the distribution of the earnings from operation. Obviously expenditures for pavement incurred by the utility in response to assessments levied therefor by the city, or the cost of cutting through such pavement for construction purposes and its replacement, are proper capital charges. It does not necessarily follow that the utility is to capitalize expenses for municipal betterment in which it has not participated and where such accruing benefits to the utility are remote and incidental, and thus compel the subscribers for utility service to pay increased rates because of public improvements. The improvement is not a proper element of value where the pavement has not been paid for by the utility, nor any expense in connection with it directly incurred, in determining a value which shall serve as the basis for an adjustment in rates.”

See also *Ashland v. Ashland W. Co.* 1909, 4 W. R. C. R. 273, 307; *State Journal Prtg. Co. v. Madison G. & El. Co.* 1910, 4 W. R. C. R. 501, 554; *In re Compensation to Fond du Lac W. Co.* 1910, 5 W. R. C. R. 482, 492; *City of Racine v. Racine G. Lt. Co.* 1911, 6 W. R. C. R. 228, 240; *In re Manitowoc W. Wks. Co.* 1911, 7 W. R. C. R. 71, 88; *City of Beloit v. Beloit W. G. & El. Co.* 1911, 7 W. R. C. R. 187, 233; *La Crosse v. La Crosse G. & El. Co.* 1911, 8 W. R. C. R. 138, 162.

City of Milwaukee v. Milwaukee Gas Light Company ¹³ involves the valuation of a gas plant for rate purposes. In regard to paving over mains the Commission says (at page 453):

The respondent makes the claim for paving over mains and services. The engineers have included all the paving actually disturbed by the company in the unit prices of the items affected. This Commission has in numerous cases held that paving not disturbed by the company should not be included in the value of the property. It is therefore unnecessary to discuss this matter further in this connection.

§ 1118. Wisconsin Commission—Purchase cases.

Re Purchase Oshkosh Water Works Plant ¹⁴ involves the valuation of a water plant by the Wisconsin Railroad Commission for purposes of municipal purchase. Although in rate cases it has been the practice of the Commission to exclude the cost of pavement laid without expense to the company, in determining fair value in purchase cases the reproduction cost of such pavement has generally been included. In the present case the Commission says (at page 662):

In arriving at the cost of reproduction of the physical property it is probably settled in this state that only such cost shall be considered as "would be necessarily incurred by a reasonably prudent and careful man, using ordinary careful business methods, in reproducing a plant of equal efficiency." *Appleton Water Works Co. v. Railroad Comm.* (January term, 1913, Supreme Court of Wisconsin). It is conceded that in reproducing a plant of efficiency equal to that of the existing plant it would be necessary to cut through all paving under which existing mains lie and that the cost of removing and relaying the paving would be a part of the construction cost. This

¹³ 12 W. R. C. R. 441, 24 A. T. & T. Co. Com. L. 708, August 14, 1913.

¹⁴ 12 W. R. C. R. 602, September 27, 1913.

principle was recognized and applied by the Commission in the Appleton case (In re Appleton W. W. Co. 1910, 6 W. R. C. R. 97, 122) and subsequently affirmed by the Supreme Court of this state in the case cited above.

The Appleton case is abstracted above, § 164. In at least one purchase case, however, the Commission excluded the value of pavement laid without expense to the company. In *Re Manitowoc Water Works Co.*, 7 W. R. C. R. 71, decided June 27, 1911, the Commission says (at page 88): "No allowance will be made for paving which the company was not compelled to remove when laying its mains and services." A similar inference would naturally be drawn from the Commission's discussion of this subject in *Re Fond du Lac Water Co.*, 5 W. R. C. R. 428, 492, decided August 19, 1910.

§ 1119. Wisconsin Commission and Supreme Court—Pavement over services excluded in purchase case.

*Appleton Water Works Company v. Railroad Commission of Wisconsin*¹⁵ is an action brought under the Wisconsin Public Utility Act to alter or amend an order of the Railroad Commission fixing the compensation to be paid by the city of Appleton for the purchase of the plaintiff's waterworks plant.

In this case the Railroad Commission included, in its estimate of the cost-of-reproduction-new, pavement over mains even though laid without expense to the company. In its decision the Commission had said (at page 122):

For the purpose of the present inquiry it is conceded that the cost-of-reproduction-new, including the item of paving, must be regarded as an evidentiary fact in reaching a final conclusion, and it may be added that in no case, either for rate-making purposes or otherwise, has the Commission ever omitted

¹⁵ 154 Wisconsin 121, 142 N. W. 476, May 31, 1913.

from consideration the item of paving in ascertaining the cost-of-reproduction-new. It has, however, in rate-making cases, also considered, as having a probative effect, the cost-of-reproduction-new under conditions as existing at the time of the original construction of the plant.*

* Re Appleton Water Works Company, 6 W. R. C. R. 97, December 7, 1910.

Accordingly, in the cost-of-reproduction-new about \$17,000 was included to cover the cost of relaying pavements over mains, but the cost of relaying pavements over service pipes and the cost of excavating and filling trenches in which to lay service pipes was not included. The company claimed that an allowance should have been made for such cost. A brief statement of the facts is as follows: At the time of the purchase of the plant there were 1827 service pipes attached to the mains; the company had dug and refilled 1575 of its trenches at its own expense and the consumers had dug and refilled 352 of them under a rule of the company in force during recent years requiring the consumer to pay such cost. The service pipe here spoken of is that section of the pipe between the main and the corporation cock at the curb line. The company argued that the service pipe from the main to the curb line unquestionably belonged to the company and that in reproducing the plant it would be necessary to excavate and fill new trenches and cut through and relay the pavements and hence if the cost of reproduction were used as a basis, or even as a material factor in determining present value, it should include the cost of reproducing the services. The circuit court agreed with this contention, but the Supreme Court upheld the Commission in excluding this item. The Supreme Court agreed that the service pipe between the main and the curb belonged to the company whether paid for by the company or by

the consumer. The Supreme Court held, however, that inasmuch as the consumer would be properly required to pay the cost of installing his service pipe and was so required by present rules of the company, cost of excavation and replacing pavements would not properly be a part of cost of reproduction to the company. The court says (at pages 481-482): ¹⁶

Cost of reproduction must mean the cost which will be necessarily incurred by a reasonably prudent and careful man, using ordinarily careful business methods, in reproducing a plant of equal efficiency. Anything which under such a conduct of the business would cost nothing to reproduce can not logically be included. It is not denied that if the city or a new water company were to establish a new plant the consumers could be required, as a condition of receiving water service, to do the work in question, and even furnish the pipe; such a requirement is quite generally enforced at the present time in cities of this class. Conditions of life at the present time in such cities practically compel residents to accept water service; even in small cities the old-fashioned well is either tabooed by public opinion or its use prohibited by health regulations. So it seems that there could be no question but that it would be entirely practicable, and in fact the only reasonably prudent policy, for a new company to require consumers to lay their own service pipes.

This is not the case where land or other property of value has been voluntarily donated to the old company. With regard to such property it has been held in cases involving the fixing of rates that it is rightfully to be considered in arriving at the cost of reproduction. This result is reached on the idea that a new company could not count on receiving such gifts. Whether the logic of these cases be correct or not, we do not decide, but in any event the principle does not apply to expenses which may legally be assessed, and in the exercise of good business judgment ought to be assessed, against the consumer. For purchase

¹⁶ 142 N. W.

purposes at least the only expenses which could be considered in the estimate of the cost of reproduction are those which are reasonably necessary in a prudently conducted reproduction. Whitten Val. Pub. Serv. Corps., Secs. 180-192; San Diego Water Co. *v.* San Diego, 118 Cal. 556.

CHAPTER VIII

Property Donated or Acquired Without Cost

- § 1130. Arizona Commission—Appliances loaned to consumers.
- 1131. California Commission—Railroad land.
- 1132. New Jersey Commission—Gratuitous pole locations.
- 1133. New York Commission, Second District—Gas services paid for by consumers.
- 1134. Wisconsin Commission—Railway right of way and easements.
- 1135. Wisconsin Commission—Water services in purchase case.

§ 1130. Arizona Commission—Appliances loaned to consumers.

Huffman *v.* Tucson Gas, Electric Light and Power Company ¹ involves the valuation of a gas and electric plant for rate purposes by the Arizona Corporation Commission. The Commission refused to include in the valuation the company's investment in arc lamps, gas engines and gas appliances loaned to consumers. The Commission says (at page 741):

Reviewing respondent's contention that the investment in commercial arc lamps loaned the business consumers of the city, gas engines used for pumping for irrigation purposes pending extension of electric lines, the investment in gas appliances used by private consumers, and the investment in flat-irons, fans, motors, etc., rented or loaned consumers, it is our opinion that this property should not be included in the valuation of the property used to serve the general public, and it is therefore disallowed. Such allowance would unquestionably result in discrimination against the many consumers furnishing their own appliances.

¹ 21 A. T. & T. Co. Com. L. 725, July 9, 1913, Arizona Corporation Commission.

§ 1131. California Commission—Railroad land.

In the matter of ascertaining the value of the property of the Stockton Terminal and Eastern Railroad Company ² the Railroad Commission of California confines itself to findings as to certain elements of value, including both original cost and reproduction cost. In its estimate of reproduction cost it includes the value of certain land donated to the railroad, but is careful to point out that it expresses no opinion as to whether such value should be included in fair value for rate purposes. The Commission says (at page 220):

Careful investigation was made into real estate values. The market value at the time of the acquisition of the property and also at the present time was arrived at by interviews with persons familiar with its value, living at Stockton and along the line of the railroad. As in all other cases of ascertaining the value of the real estate of a public utility, recent sales of property in the vicinity and the prices at which the land is now held by its owners were used in determining the market value. It appears that 37.6 per cent of the total area of the railroad company's operative real estate as of June 30, 1912, and real estate constituting in value 36.1 per cent of the total market value was donated.

I desire at this point to draw attention to the very material difference between the original cost of right of way and station grounds, estimated by this Commission's engineering department at \$16,151, and the reproduction value of the same, estimated at \$30,642. It will be noted that the reproduction value is almost twice the original cost. The reproduction value as estimated by this Commission's engineering department represents the amount of money which it would take at the present time to purchase all the railroad company's right of way and station grounds, on the assumption that none thereof would be donated. The difference between the original

²2 Cal. R. C. 777, 19 A. T. & T. Co. Com. L. 208, April 30, 1913, California Railroad Commission.

cost of real estate and the reproduction of the present value thereof, including the unearned increment, presents one of the most serious questions in connection with public utility valuations. I shall content myself here, as throughout this opinion, in finding actual facts and shall express no opinion as to whether or not in a rate-fixing inquiry it is just to the public to credit the utility with the present value of real estate in which very little or no money may have been actually invested by the utility.

The above decision was given by Commissioner Max Thelen. In a subsequent paper before the National Association of Railway Commissioners, October 30, 1913, Commissioner Thelen takes strong ground against the inclusion of the value of property donated in determining fair value for rate purposes. See also an extract from a more recent decision of the California Commission quoted in § 1093.

§ 1132. New Jersey Commission—Gratuitous pole locations.

The case of *Gately & Hurley v. Delaware and Atlantic Telegraph and Telephone Company*³ involves the valuation of a telephone plant for rate purposes. The existing rates charged by the company were upheld by the Board, as they netted the company considerably less than the amount determined by the Board to be a fair return upon the fair value of the property. In this case the replacement-cost-new of right of way was allowed at \$372,300, although this item appeared on the auditor's books at but \$113,400. The difference between the book cost and the estimate of replacement cost was largely accounted for by the company's engineer as due to the likelihood that if the lines were built to-day fewer gratuitous pole locations would be granted. It appears, therefore, that the difference between the book value and the replacement cost

³ 1 N. J. B. P. U. C. 519, 14 A. T. & T. Co. Com. L. 39, January 7, 1913.

allowed is largely due to rights donated by subscribers and others. The Board does not discuss the justice of including such amount in fair value for rate purposes

§ 1133. New York Commission, Second District—Gas services paid for by consumers.

In *Buffalo Gas Company v. City of Buffalo*⁴ the company asked the New York Public Service Commission for the Second District to fix a rate for gas supplied to the city of Buffalo. In determining fair value for rate purposes, the Commission refused to include the reproduction cost of services paid for by the consumers. Chairman Stevens says (at page 590):

The real question is, how many services the company paid for and therefore owns. It early appeared in the case that a large number of the services were paid for by the consumer and that some of the services were paid for by the company. It is a plain proposition, that where a service is laid in the land of the consumer and extended through the street to the main in front of his house and paid for by him, it becomes his property and not the property of the company. If the company is to be allowed in its capital account for such a main, then the consumer must continue in perpetuity to pay a return of at least 6 per cent to the company upon property which he, the consumer, has paid for. It is clear that this is neither reason nor justice, and can not be permitted.

§ 1134. Wisconsin Commission—Railway right of way and easements.

*Superior Commercial Club v. Duluth Street Railway Company*⁵ involves the valuation of a street railway for rate purposes by the Wisconsin Railroad Commission. It appears that a certain landowner had donated to the

⁴ 3 P. S. C. 2d D. (N. Y.) 553, 23 A. T. & T. Co. Com. L. 244, February 4, 1913.

⁵ 42 W. R. C. R. 1, November 13, 1912.

company a strip of land for right of way purposes, and that a land improvement company had granted the railway company easements to operate over private right of way, which private right of way subsequently became city streets. It was claimed by the company that its right of way and easements, secured without cost, should be valued and included in fair value for rate purposes. The Commission does not discuss the question at length, but refused to include the allowance requested. The Commission says (at pages 15-16):

Exception was taken to the valuation as given in the above table by witnesses for the respondent company. In 1908 the Billings estate donated a strip of land 40 feet wide from New York Avenue to the St. Louis River to the respondent for its Billings Park line, and also granted a parcel of land at the end of that line for loop purposes in 1903. Testimony was introduced showing that a value should be placed upon the right of way as required and included in the valuation.

Before certain plats of territory now covered by the city were filed in the office of the register of deeds of Douglas County the Duluth Street Railway Company was granted easements by the Land & River Improvement Company to operate over private right of way on Third Street from Lamborn to Tower Avenue; on Tower Avenue from Third Street to Belknap Street; on Belknap Street from Tower Avenue to Hammond Avenue; on Sixth Street from Tower Avenue to Lamborn Avenue, and on Lamborn Avenue from Third Street to Sixth Street. Claim was also made that these easements had certain values which should be considered in the instant case.

Petitioner's brief holds that these grants can have no value as against the public for rate-making purposes, in that these grants dedicate the streets to the public and any claim of the grantee is abrogated when these claims infringe upon the use of streets for the public good. The brief states further that the respondent should not be allowed to earn an income upon any value that may be attached to these grants, because the fran-

chises of the railway company assume full powers on the part of the city over its streets and the respondent has in its franchises acquiesced in this assumption.

It does not seem clear to the Commission that these lands granted for right of way purposes should be considered in establishing a fair value of respondent's plant and business as a basis for rates. The facts at the present time seem to indicate that to allow a return on any value which may be placed upon these grants would hardly be fair.

§ 1135. Wisconsin Commission—Water services in purchase case.

Re Purchase Oshkosh Water Works Plant⁶ involves the valuation of a water plant by the Wisconsin Railroad Commission for purposes of municipal purchase. It was found that services had been made for the most part at the expense of the consumers. The Commission accordingly excluded the cost of services in determining the fair value of the property. The Commission says (at page 656):

The testimony shows that all expenses arising from this source were charged to a service account which the company carried; that consumers were charged a fixed amount, when connected up, to cover these expenses; that these amounts were credited to the foregoing account; and that any deficit at the end of the fiscal year was charged to operating expenses. This was practically confirmed by Mr. Hinman, Mr. Maxcy's assistant, who stated that during his connection with the plant, with the exception of one year, service pipes were laid at the expense of the property owners. During the year he had in mind he believed that some were laid at the expense of the company to promote business. For these reasons no allowance may justly be made for services.

As shown above in § 1119, the Commission, supported by the Supreme Court of the state, holds that inasmuch

⁶ 12 W. R. C. R. 602, September 27, 1913.

as water services are in general paid for by the consumer and inasmuch as the cost of such services is not necessarily a part of the cost of reproduction *to the company* such cost need not be included in a valuation for purchase purposes.

CHAPTER IX

Property Constructed Out of Surplus

§ 1140. Massachusetts Gas and Electric Light Commission—Haverhill gas rate case.

1141. Massachusetts Supreme Court—Fall River capitalization case.

1142. New Hampshire Commission—Railroad rate report.

§ 1140. Massachusetts Gas and Electric Light Commission—Haverhill gas rate case.

In *Re Haverhill Petitions*, decided December 31, 1912, involves a complaint as to price of gas sold by the Haverhill Gas Light Company. The decision in this case of the Massachusetts Board of Gas and Electric Light Commissioners hinged almost entirely on the treatment of improvements constructed out of surplus earnings. The decision follows the rule previously laid down (see above, § 200) that, while recognizing the legal title of stockholders to property constructed out of surplus, the fact that a portion of the property has been so constructed must nevertheless be given due weight in fixing the fair rate of return. In view of the very large portion of the existing plant that had been constructed out of surplus, the Board seems to hold that a return upon the total investment of less than 6 per cent is not unfair. The Board reduces the price charged from 85 cents to 80 cents a thousand cubic feet. The following is from the decision of the Board (at pages 342-343):¹

This review of the acts of the legislature indicates an early recognition of the business as a virtual monopoly, and imposes upon it a considerable measure of restraint, supervision and regulation. The legislative purpose to prevent the issue of

¹ 15 A. T. & T. Co. Com. L. 324, December 31, 1912.

stock for anything besides cash, or, in the earlier years, property actually contributed by the stockholders, is plain. The prohibition of stock dividends and the provisions for the sale of additional stock at auction, or its distribution to the stockholders at its market value, or, as now, at a price not so low as to be inconsistent with the public interest, are also indications of an early and consistently maintained purpose to prevent surpluses accumulated out of earnings becoming the basis, directly or indirectly, for the issue of stock.

On the other hand, it is equally to be noted that no specific limitation has ever been placed upon rates or dividends with a view possibly of rewarding zeal in the skillful and intelligent conduct of the business, and imposing upon the directors, subject to the check of public opinion, a consideration of the welfare of the shareholders and the equities of consumers in the surplus to which they had contributed. As market value is influenced by the rate of dividends declared, the requirement that additional stock shall be issued at a premium seems also an acknowledgment that dividends may be paid on the par of the stock at a rate in excess of the return ordinarily required by investors for the use of their money. The fact that this last feature of the law has been preserved long after an express authority was granted to this Board to reduce the price of gas is significant, too, of a legislative view that these two methods of regulation are not inconsistent. This body of legislation is plainly designed to allow no capital stock to be issued save for physical property necessary for proper corporate purposes, to keep the authorized increase of capital stock as low as market and other conditions warrant, to compel publicity of corporate affairs, and, on the other hand, to secure the community from the wasteful effects of competition by the exclusion of others from the territory already adequately and efficiently supplied, and to provide, upon complaint, a compulsory reduction in price, and so to create a status favorable to low rates and adequate service. There is nothing in this legislative policy which violates or countenances the violation of the company's constitutional right to "a fair return upon the value of that which it employs for the public convenience."

In deciding a complaint as to price, the Board is bound to consider all the facts which may seem to have a bearing upon the company's affairs and the way in which it performs its public duty, but the Board is not, in its judgment, in the consideration of a proper return, required to exclude any property of the company necessary for the welfare of the public and actually used therefor, although it may have been provided by the investment therein of surplus earnings accumulated in past years; nor is it required, in order to escape the charge of confiscation, to ignore the company's history, the limitations, legal or otherwise, under which its property has been acquired, or, in effect, to capitalize that property upon the same basis as if it had reached its present status under different conditions.

In view of the fact that this company has borrowed its present floating debt at an average rate not exceeding $4\frac{1}{2}$ per cent, and stocks of successful gas companies in this state are continually traded in on nearly as favorable basis, the Board is clearly of the opinion that the allowance of a return upon the total investment of less than 6 per cent is not subject to the charge of confiscation.

§ 1141. Massachusetts Supreme Court—Fall River capitalization case.

Fall River Gas Works Company *v.* Board of Gas and Electric Light Commissioners ² is an appeal from a decision of the Massachusetts State Board of Gas and Electric Light Commissioners refusing to permit the company to issue certain new stock. The company had paid regular dividends at the rate of 10 per cent prior to June 30, 1908, and 12 per cent dividends thereafter. In addition it had declared an extra dividend of 20 per cent in July, 1907, and an extra dividend of 15 per cent in December, 1910. The company asked for the issue of 1150 shares of additional capital stock having a par value of \$100 each at a price of \$225 a share. The issue therefore would realize \$258,750. This amount was to be used in the payment of

²214 Mass. 529, 102 N. E. 475, May 23, 1913.

the company's obligations already incurred for construction and for future additions to plant. Prior obligations incurred for construction were within about \$40,000 of the amount paid by the company in the extra dividends above described. The Board states that "the conclusion seems irresistible that but for the declaration and payment of these extra dividends these notes would not now exist." The Board argued that the proposed proceeding was in the nature of a stock dividend, which was prohibited by law, and that in any event it was contrary to the public interest and a clear violation of the spirit if not of the letter of the law. The Board said (at page 477):

The case turns upon the true construction of this statute. The contentions of the petitioner are (1) "that the board has no general jurisdiction to refuse to approve an issue of capital stock merely upon the general ground that in its opinion such issue is 'contrary to the public interest,'" or (2) upon the specific ground "that the company could secure or could have secured from earnings the funds sought to be thereby raised," and still further (3) that "the issue of additional capital stock as proposed for its fair market value in cash to secure funds to pay for additions to plant which might have been paid for by earnings, which earnings were used in part for extra dividends to stockholders, is not a . . . stock dividend and is not contrary either to the letter or to the spirit and policy of the statutory prohibition of stock dividends."

The court reversed the findings of the Board, holding that the company had the right to capitalize the cost of all additions to plant regardless of the condition of the company's earnings or surplus. Judge Hammond in delivering the opinion of the court says (at pages 479-480):

But in acting upon an application the Board is engaged in the performance of a quasi judicial function, and should be moved only by considerations logical to the issue and not inconsistent

with the rights of parties. It is not to be assumed that in vesting the Board with the decision of the general question the legislature intended that the usual principles upon which stock could be properly issued were to be changed. The general question as to the necessity of the issue for the purposes for which it was lawfully authorized was the same and should be decided upon the same considerations, whether decided in the first case by the corporation itself (and, if need be, by the court afterward), or by the Board. There is no change in the question nor of the principles upon which it is to be decided. The only change is in the party deciding it.

By what principles is the Board to be guided in performing this function? It is not compelled to take for granted that the facts stated in the application are true. It may investigate and find the facts for itself.

It is the duty of a public service corporation to have its plant large enough to perform the service for which it was established, and it has a corresponding right to have such plant fairly capitalized. It is its duty to keep up the plant, whether by repairs or otherwise, out of its earnings, and this duty is superior to its right to distribute its earnings in dividends. If the time comes when the plant of the corporation is insufficient for the performance of its corporate duties to the public, then it is subject to the same duty, and is invested with the same right with reference to the additional plant as in the case of the original plant—the duty to increase the plant and the right to capitalize fairly the value of that increase.

When the corporation has performed all its duties, and by its fortunate situation, good management, or any lawful conduct has remaining a surplus of earnings, it has the right to distribute this surplus among its stockholders in dividends. As between the public and the corporation the earnings belong to the corporation. In performing its full duty to the public and others it has done what it was chartered to do, and is entitled to the profits of the business for which it was chartered. If there be any reserved power in the charter whereby the profits can be reduced or the charter revoked, of course that power may be invoked if it appear that the charter is too fa-

avorable to the corporation. And in the case of a gas company the profits may be reduced by an order lowering the price of gas, if such order seems just and reasonable. R. L., ch. 121, sec. 34. The relations between a public service corporation and the public to serve whom it is chartered are not that of a partnership, but rather that of independent contracting parties. The public may demand proper service and with that demand the corporation must comply. The company may demand fair compensation for this service and with that demand the public should comply. The corporation can have no share in the benefit to the public, nor can the public have any share in the net profits available for dividends.

Upon the question whether there shall be an issue of additional stock to meet liabilities incurred in increasing the efficiency or value of the plant, the amount of undivided profits on hand at the time the liabilities were incurred or the expenditures made which thereafterward and before the application to the Board have been lawfully distributed as dividends is entirely immaterial. We see nothing to take this case out of the general rule.

Nor is this proposed increase a violation of the statutory provision against the issue of a stock dividend. It certainly is not in form such an issue. Nor is it in substance. The sum raised goes to increase the value of the plant, for the purposes of the business for which the petitioner was incorporated; and that is none the less true even if these expenses could have been paid by the funds since lawfully distributed as dividends.

§ 1142. New Hampshire Commission—Railroad rate report.

The New Hampshire Public Service Commission in its report on an investigation of railroad rates³ discusses the treatment in determining fair value for rate purposes of additions and betterments made out of earnings, and seems to conclude that where dividends of reasonable amount have been regularly paid, and in addition thereto

³ Report on an Investigation of Railroad Rates by the Public Service Commission of New Hampshire, November 30, 1912, 377 pages.

improvements have been made out of earnings, the cost of such improvements should not be included in the fair value. The Commission says (at pages 340-341):

As set forth in the foregoing history of the various roads, additions and betterments upon many roads have been made from time to time out of earnings, and in many instances undoubtedly such additions have been sufficient to make good any deficiency caused by the issuance of stock at less than par. When such improvements out of earnings have been made possible by refraining from declaring dividends to the amount of a fair return upon the investments before made, it is difficult to perceive why they should not be treated for rate purposes in all respects as capital originally invested. This has been questioned by the Interstate Commerce Commission, and the suggestion has been made, as will be hereinafter noted, that such investments should be entitled to a return only when the same can be earned without increasing rates. Perhaps a fairer rule would be, that they should be entitled to a return only when such return can be made without increasing rates, unless they are such improvements as it was the duty of the railroad to make as being reasonably necessary for the accommodation of the public, in which case they should be treated in all respects like new capital.

But where dividends of reasonable amount have been regularly paid, and in addition thereto improvements have been made out of earnings, a different question is presented. In such case the additions have been made possible, not by the action of the stockholders in refraining from receiving a reasonable return upon their investments, but by the action of the road in collecting more than a reasonable return from the public. The public, in rates paid, has kept good the original investment and has paid a reasonable return and has besides made *the additions*. Should the public now be held to pay a return upon those additions which it has paid for?

The Commission then quotes the discussion of this subject by the Interstate Commerce Commission in the East-

ern Advanced Rate Case and in the Western Advanced Rate Case,⁴ and concludes as follows (at page 345):

It should be remembered that this discussion by the Interstate Commerce Commission applied in the absence of any such statutes as have resulted in the existing situation in New Hampshire. The suggestions made apply then with peculiar force where the additions and betterments have been made, as in the case of the Concord road, in addition to the payment for the most part of the full dividends allowed by law, and when such improvements have been permitted to be capitalized under an express statutory contract that the rates should not be thereafter raised.

⁴ See above, § 204.

CHAPTER X

Unused Property

- § 1150. Unused exchange building held pending sale.
1151. Little-used generating station—New York Commission, First District.
1152. Little-used gas plant purchased to avoid competition—New York Commission, Second District.
1153. Unused land—New York Commission, Second District.

AUXILIARY AND EMERGENCY PLANT

1154. California Commission—Emergency electricity supply.
1155. New Hampshire Commission—Auxiliary steam plant.

DETERMINATION OF ADEQUATE INVESTMENT IN PLANT

1156. Arizona Commission.
1157. Canadian Board of Railway Commissioners—Montreal telephone rate case.
1158. Massachusetts Gas and Electric Light Commission—Haverhill gas rate case.
1159. Nebraska Commission—Lincoln telephone rate case.
1160. Nevada Commission—Cost of unnecessarily large plant disallowed.
1161. New York Commission, First District—Required future expenditures.
1162. Wisconsin Commission—Case of plant that had reached its capacity.

§ 1150. Unused exchange building held pending sale.

San José *v.* The Pacific Telephone and Telegraph Company ¹ involves the valuation of a telephone plant for rate purposes by the California Railroad Commission. The company claimed the right to earn on the value of an unused exchange building until such time as it was able to sell the building. This claim was disallowed. Commissioner Eshleman says (at pages 377–378):

¹ 3 Cal. R. C. R. —, 24 A. T. & T. Co. Com. L. 370, October 9, 1913, California Railroad Commission.

The Company, as heretofore pointed out, places a value of \$26,892 on its old exchange building which is now no longer in use. Counsel for defendant says that this building is admittedly non-operative property, but that it has not been able to dispose of it at a reasonable figure up to the present time. It is urged that inasmuch as the company expects to sell this building at the earliest opportunity it should be allowed to earn on the money invested therein and failure to permit such earning will in effect penalize the company for its willingness to enlarge its plant so as to provide facilities for serving the public adequately. I do not believe there is much force in this argument. While I do not question the good faith of the company's statement that it intends to sell this property as soon as possible, yet the Commission can not admit that non-operative property adds to the value of the property devoted to the public use. Such an admission would make all kinds of abuses possible, and I do not believe either the law or equity requires an allowance for such an item and shall eliminate it from further consideration.

§ 1151. Little-used generating station—New York Commission, First District.

In *Re Rates for Gas in Thirty-first Ward of Brooklyn*² the New York Public Service Commission for the First District considers the valuation of an old and little-used plant. Commissioner Maltbie in delivering the opinion of the Commission says (at pages 341-342):

Old Works—The Brooklyn Borough Gas Company owns two generating stations. One is old and little used, and the company intends to dismantle it, sell the land and use the new plant as the sole generating station. This new plant is modern, furnishes gas for the whole area of supply, contains room for additional plant as consumption increases, and was constructed to take the place of the old plant. The old plant should have been withdrawn from capital account at the time of such substitu-

² 4 P. S. C. 1st D. (N. Y.) 328, July 8, 1913.

tion, and its cost less receipts from the sale of land and structures charged against the depreciation fund. But this was not done, and we must consider what allowance should now be made for this old plant.

No use whatever is being made of the engines, furnaces, boilers, water-gas sets, purification apparatus, miscellaneous power-plant equipment and accessory equipment. The company's engineer estimates that 70 per cent of the works and station structures are being used advantageously. Mr. Hine says 50 per cent, as they are not used for the purposes for which they were constructed. The engineers agree as to the extent of the partial use to which the other property is being put.

Taking these facts into consideration, and particularly the expressed intention of the company to scrap this property at the earliest possible moment, \$20,000 is considered a fair allowance for the value of property (exclusive of land) upon December 31, 1912, which would serve the company as well as the old plant and possibly better.

§ 1152. Little-used gas plant purchased to avoid competition—

New York Commission, Second District

In *Buffalo Gas Company v. City of Buffalo*³ the company asked the New York Public Service Commission for the Second District to fix a rate for gas supplied to the city of Buffalo. The case does not involve the rates charged to general consumers. The cost of manufacture of gas per thousand cubic feet was increased owing to the competition of a natural gas company. This competition reduced the output of manufactured gas and consequently increased the per unit cost over what it might normally be in a city of the size of Buffalo. The Commission fixed a 90-cent rate for gas furnished to the municipality. The company was charging \$1.00 per thousand cubic feet to private consumers.

The company claimed \$558,000 for a plant that had

³3 P. S. C. 2d D. (N. Y.) 553, 23 A. T. & T. Co. Com. L. 244, February 4, 1913.

been acquired by the company to avoid competition. The plant was admittedly of little use and was included by the Commission in fair value at \$150,000. Chairman Stevens discusses this subject as follows (at pages 628-631):

It is well settled in our judgment that no allowance need be made in a rate-making case for unnecessary expenditures, either in construction or in management. Such would appear to be the view of the Supreme Court in *Reagan v. Farmers Loan and Trust Company* (154 U. S. 362), *Stanislaus County v. San Joaquin, etc.* (192 U. S. 201), *San Diego Water Company v. San Diego* (118 Cal. 556), and other cases unnecessary to cite.

Some general considerations as to whether the company should be allowed a return upon the full reproduction cost of this property are as follows:

At the time of the purchase in 1898 it is clear that those representing the Buffalo Gas Company did not consider the Peoples plant necessary to their gas making and distributing operations. They had at that time two or three generating plants of their own, and of sufficient gas making capacity, as shown by the fact that they have demolished the generating plants of the Mutual and Citizens companies. In defending their purchase before the courts there is no statement by any affiant that the plant was needed in their business. Their holder capacity was sufficient without the storage holder at the Peoples plant, as is shown by the fact that two of the holders at Elk Street have been and are entirely disused and the holder of the Citizens plant has been torn down. It is true that these holders are differently located with reference to gas consumption than that at Bradley Street, but there is no evidence in the case which shows that the holder at Forest Avenue is not entirely sufficient in capacity to supply the part of the city which is served by it; and the witnesses for the company admit that it is bad engineering practice to have the two holders so near together, constituting, as they do, over one-half of the entire holder capacity of the company.

The buildings and generating plants are entirely out of pro-

portion to the use which has ever been made of them by the company. The statistics as to production show that the use in generating water gas is extremely small as compared with the total output; and for one period of over a year no water gas whatever was generated at this plant. There can be in my judgment no justification of the expenditure of over half a million dollars for the purposes which are served by the Peoples plant.

It is urged that the company was required to purchase this plant in self-protection, and therefore that it should be allowed at least the fair value of the plant. This brings us directly to the question whether, when cut-throat competition is threatened to a company, it has a right to protect itself against such competition and charge the expense of such protection up to the public. If such competition continued, the stockholders of the company would suffer loss by a reduction in their dividends, owing either to less sales or smaller prices, or both. It was to protect their hoped-for dividends and the value of their property that induced the directors of the Buffalo Gas Company to purchase the Peoples plant property and issue securities therefor to the amount of over \$2,250,000. If it be held that the public must bear the burden, then it necessarily follows that the public is an insurer of the company against all loss whatsoever, and that the company is entitled to a return upon its property of a reasonable amount however and for what purpose acquired, and that the public must pay it, irrespective of any other consideration. If it be held that the plant was bought merely for the purpose of protection of dividends and the public is charged with the payment of the cost, then the principle clearly is that the people of Buffalo, without any opportunity to protect themselves, without having had any opportunity to prevent the construction of the Addicks plant, must bear the burden of its construction, and not reap the benefits of the lower price of gas to them which would follow from an active competition. In other words, in order to keep up the price of gas and thereby maintain its dividends the existing company had the right to buy up the competitor which was offering a lower price, and then charge the cost of the purchase to the public, and thus in-

crease the price which it would be compelled to pay for gas. The amount for which the company seeks to have credit in this case is \$558,670. This makes a difference in the rate of 5½ cents per thousand cubic feet upon the basis of the present consumption; so that practically the question is, shall the public pay 5 cents a thousand cubic feet more for its gas than it otherwise would if the gas company had not thought fit to buy out Addicks and his plant for the purpose of protecting itself against the effects of competition.

It is clear that the public should be required to pay a return only upon a plant which is suited and adapted to its needs, with of course a reasonable allowance for future expansion and growth, which is just as important for the public as it is for the company; and if a given plant is not suited and adapted to the needs of the public which it serves, but is more extensive in capacity than is reasonably required for such needs and reasonable development in the future, or if it has been extravagantly constructed, then clearly, and upon the plainest principles of equity and justice, the company should not be entitled to a return beyond that which would be demanded upon a plant properly located, economically constructed and suited in capacity to the needs for which it is designed.

§ 1153. Unused land—New York Commission, Second District.

In *Buffalo Gas Company v. City of Buffalo*⁴ the company asked the New York Public Service Commission for the Second District to fix a rate for gas supplied to the city of Buffalo. In this case Chairman Stevens discusses the question of unused land as follows (at pages 578-579):

All of the land at the Genesee Street plant should be treated as in the public service. The contention of the city that a certain parcel next to the canal is not in the public service should not be allowed. It is not in fact used at this moment, but it is

⁴ 3 P. S. C. 2d D. (N. Y.) 553, 23 A. T. & T. Co. Com. L. 244, February 4, 1913.

directly adjacent to the generating plant of the company, and with any growth in the business would undoubtedly be needed; and justice and fair dealing do not allow for a moment the quantity of land to be scaled down to the lowest point possible under present circumstances. The company is fairly entitled to a reserve of land of this character at this location. . . .

At East Ferry Street there are $5\frac{1}{2}$ acres of land. The only use it has in the public service is that of a holder station; $5\frac{1}{2}$ acres for this purpose is not shown by any evidence in the case to be warranted. As a matter of fact, but a portion of this land is used for that purpose; and there is no evidence showing that more will be required for public use within a reasonable time in the future or in fact at any time. An allowance of one-half of this land as being in the public service is liberal to the company.

At Forest Avenue there are two parcels of land separated by the tracks of the New York Central railroad. The smaller tract is rented for and used as a coal yard and has no connection whatever with the public service. A considerable portion of the larger tract next to the water is not in fact used in the public service at the present time. The holder and engine-house are situated at one end of the lot, and some small cheap buildings at the other end which are not used for gas purposes. Owing to connection with the street, location of piping, etc., it is believed that it may not be unreasonable to treat the whole tract as being in the public service.

AUXILIARY AND EMERGENCY PLANT

§ 1154. California Commission—Emergency electricity supply.

*Solari v. Tuolumne County Electric Power and Light Company*⁵ involves the valuation of an electric plant for rate purposes by the California Railroad Commission. The company claimed that the Stanislaus River line was used as an emergency source of supply, but the Commission held that the possibility of its use was too remote

⁵ 3 Cal. R. C. R. —, 22 A. T. & T. Co. Com. L. 1045, July 29, 1913, California Railroad Commission.

to justify its continued inclusion in capital account. The Commission therefore excluded the item from the valuation, but permitted an annual operating charge sufficient to amortize the value of the line within a period of ten years. The Commission says (at pages 1051-1052):

As has hereinbefore been stated, the Stanislaus River line has not been used by defendant since it began to receive its electric energy from the Sierra and San Francisco Power Company. The testimony shows that while defendant maintains this line as an emergency source of supply, it will not have to rely on the line unless both the hydroelectric operations of the Sierra and San Francisco Power Company above Sonora and its steam plant in San Francisco should become unavailable at the same time. These two conditions have not as yet occurred and the possibility of their doing so seems entirely too remote to justify the continued inclusion of this line in capital account on which the defendant may justly claim to be entitled to a fair and reasonable return. It seems fair, however, to permit the defendant during each of the ensuing ten years to collect rates high enough to permit it to charge off such sum on its books that by the end of the ten years the principal so charged off, together with the interest, shall have amounted to the entire value of the line at the present time. I believe that it will be very liberal on the part of rate-fixing authorities to permit this to be done.

§ 1155. New Hampshire Commission—Auxiliary steam plant.

In passing on an application for a transfer of the property of the Berlin Electric Light Company⁶ the New Hampshire Public Service Commission bases its determination chiefly on the fair value of the property for rate purposes. The Commission considered the question of what allowance should be made for an auxiliary steam plant, which plant had not been in use for some time, and

⁶ 3 N. H. P. S. C. 174, 21 A. T. & T. Co. Com. L. 781, August 30, 1913.

the future use of which was uncertain. The Commission says (at page 204):

This plant is not now in use, and can not be used without expensive repairs. There is some difference of opinion between the engineers as to the desirability of establishing a steam auxiliary plant. It appears that the Cascade company has an arrangement with the Burgess Sulphite Fiber Company for break-down service. If this is continued, the steam auxiliary plant will probably never be restored to service, and will be of much less value than is indicated by either its reproduction cost or its reproduction-cost-less-accrued-depreciation.

Mr. Woolfolke testified that in his opinion as an insurance against failure of current it was desirable for the company to own a steam auxiliary plant. We feel, however, that the fact that this plant has not been in use for some years, and that its future use is uncertain, is to be duly considered in coming to our final conclusion as to value in this case.

DETERMINATION OF ADEQUATE INVESTMENT IN PLANT

§ 1156. Arizona Commission.

Municipal League of Phoenix *v.* Pacific Gas and Electric Company⁷ involves the valuation of a gas and electric plant for rate purposes by the Arizona Corporation Commission. The Commission refused to make a deduction on account of the claimed excessive investment in plant. The Commission says (at page 722):

It is found that the company has anticipated the growth of its gas business by the installation of equipment of greater capacity than is at present required, but in our opinion, and considering the facts presented, it should not be penalized for so doing by reducing the value of its existing plant to the value of a plant adequate for its present needs.

⁷ 21 A. T. & T. Co. Com. L. 699, June 23, 1913, Arizona Corporation Commission.

§ 1157. Canadian Board of Railway Commissioners—Montreal telephone rate case.

In the Matter of the Application of the City of Montreal for a reduction in the rates of the Bell Telephone Company, decided October 28, 1912,⁸ the city claimed that there should be a deduction from book value on account of idle plant. It is stated that the Montreal plant was designed for 50,000 subscriber telephone stations while there were at present but 35,603 such stations. The Board of Railway Commissioners of Canada, however, refused to approve a reduction of this kind. Commissioner McLean in stating the opinion of the Commission says (at pages 105-107):

There is no question that preparation for future needs is one of the incidents of the proper management of a public utility corporation. If it is to allow demands for service to pile up and then make an expansion only after the urgency is sufficiently great, the public will be subjected to the disadvantage of delay in obtaining service, and at the same time the piecemeal method of construction this will necessitate will undoubtedly add to the cost of the plant. A comprehensive system of preparation for future needs must be followed if there is to be proper expansion. Undoubtedly this will normally lessen the cost of construction to the company. It is also of advantage to the public using telephone service because it gives a decreased basis on which earnings are to be obtained. Telephone rates must, within certain areas at least, be average rates. A common rate covers in a certain class, not only a large user of service, but also a smaller user of service, and if the company can expand the area of its service while at the same time economizing in its capital costs it is to the interest, in the long run, of the telephone users.

It is stated that this idle plant is used up in four years and that the telephone users should be debited at any particular moment with only two years' cost of this idle plant. But this

⁸ 13 A. T. & T. Co. Com. L. 93, October 28, 1912, Canada Board of Railway Commissioners.

is conjecture. The so-called idle plant may be used up in much less time and so but little assistance in arriving at a decision is rendered by this computation.

Again, even admitting that for some considerable period of time there is plant not actively in use, it does not necessarily follow that it is fair to deduct this from the plant value. A railway may add largely to its box-car equipment in order to handle grain. The grain may be rushed forward and then a considerable portion of this equipment may be idle during the balance of the year. Again a large addition may be made to such equipment in expectation of large harvests and then through untoward natural conditions there may be short harvests, and consequent surplus of rolling stock. Should the railway receive no credit for this surplus, or should the credit be worked out simply as an average? As a matter of fact, in railway transportation, and also in telephone service, readiness to serve is an important factor, and this readiness to serve is afforded in greater degree to the user of the telephone system when adequate preparation is made for future expansion. It may be urged that this readiness to serve is a readiness to serve prospective, not present, users, and that the cost of it should therefore not be charged against present users. But the prospective user is constantly becoming a present user. Further, one should not think of the situation as being simply concerned with the new subscriber who has a telephone installed. There is also the advantage to the one who already has a telephone installed and the value of whose facility is increased by the additional new subscriber with whom he may now communicate. The value of the service is a most important factor. With every addition to the telephone network the range of the facility is widened for the one already using the telephone, and consequently he is constantly sharing in the progressive utilization of the so-called idle plant—plant which, if properly handled, is simply a proper provision for legitimate expansion.

**§ 1158. Massachusetts Gas and Electric Light Commission—
Haverhill gas rate case.**

In Re Haverhill Petitions, decided December 31, 1912,

involving the rates of charge of the Haverhill Gas Light Company, the valuation of the company's property submitted in behalf of the city was only about one-half that claimed by the company. The city's estimate was based on a relocation of the plant and the construction of a plant having a smaller generating capacity. The Board of Gas and Electric Light Commissioners apparently rejects both of these propositions. The following is from the decision of the Board (at pages 333-334):⁹

The valuation submitted in behalf of the city was \$464,741, in which is included an item of \$26,306 for engineering, interest, etc. It was based on what a purchaser, wishing to do the business and having the right to do it without competition, would pay for the property rather than build a new plant. In consequence, certain items in the company's schedule of its property do not appear in the city's valuation at all. The land valuation is not of the land actually owned and occupied by the company, but the probable cost of land suitable in size and location for a gas works, but away from the heart of the city. The valuation is also made as of June 30, 1911, when the reconstruction and extension of the plant had been substantially completed. To this valuation was added the sum of \$20,000 for working capital, but a deduction of \$36,172 was also made from the figures otherwise arrived at because of the claim that the company's generators and holders exceed present needs. This makes the final figures submitted in behalf of the city \$448,569. . . .

The valuation made for the city seems to have been affected by an opinion that the works are poorly located for that development which the future may require, and to allow less than the otherwise fair value of the present generating plant because it is too large for the present needs. The reasons given, however, for continuing to use the present site show clearly that no change of location can advisedly be made until long after the time to which rates now made will apply. The Board can not, in the

⁹ 15 A. T. & T. Co. Com. L. 324, December 31, 1912.

general interest of consumers, discourage the reasonably liberal provision for the future which this company seems to have made, neither can it concede the company's claim that franchise or going-concern value should form a part of that property on which a reasonable return should be based.

§ 1159. Nebraska Commission—Lincoln telephone rate case.

Re Application of Lincoln Telephone and Telegraph Company for authority to increase rates ¹⁰ involves the valuation of a telephone plant for rate purposes by the Nebraska State Railway Commission. The Commission holds that a normal amount of excess capacity is necessary in a well-managed plant, and that such excess capacity is essential to a low average cost of production. The Commission says (at page 145):

Investigation of the affairs of many of the telephone companies in cities above 20,000 population demonstrates clearly that every prudently projected plant has more or less idle plant intended for future development, and it is necessary, in order to be able to efficiently serve the public and meet promptly increases in the demands that this should be so. There are, of course, limits within which such advance construction will be reasonable, and when it is reasonable, there can be no question but that the corporation is entitled to consider it as part of the plant upon which it shall be entitled to make earnings. A section of the community which decides to take the service of the company, say to the extent of eighty subscribers, would be very foolish to insist that the company should only lay a cable of sufficient capacity to serve that eighty, and then within a few months, when ten or twenty additional subscribers appear, that the company should be required to practically do the same work over in laying the further extensions for another twenty subscribers. To add a cable of the exact capacity would be foolishly taxing themselves for extra costs which, when projecting

¹⁰ 19 A. T. & T. Co. Com. L. 134, June 26, 1913, Nebraska State Railway Commission.

plant beyond the actual present needs within reason, will result in much lower costs on the average, and tax the users during the interim for only a slight additional amount of temporarily idle plant.

§ 1160. Nevada Commission—Cost of unnecessarily large plant disallowed.

The case of *City of Ely v. Ely Light and Power Company*¹¹ involves the valuation of an electric plant for rate purposes. The value of the plant in this case was found to be about \$57,000. The company had constructed a new plant at a cost of more than \$160,000, on the expectation that the city would grow rapidly. This expectation had not been realized and the new plant was not in use. The Commission held that it would be unjust to require the people of a small city like Ely to pay in their electric-light charges for the mistake of the company in building an unnecessarily large and expensive plant. The Commission says (at pages 586-588):

It is argued very strongly by respondent's counsel that the value of the new plant should be considered in determining the actual value of the property used in rendering the service. It is claimed that this should be done for the reason that the new plant has on one or two occasions been used to render the service while the old plant was being repaired. The claim is based upon the fact that in some cases courts or commissions have held that all property should be taken into account that is "used" or "useful." This claim, in our judgment, is very much too broad. As we view it, the proper rule is that everything "used" and "reasonably necessary to be used" should be considered. The manager of the respondent company frankly admitted in his testimony that the construction of the new plant was a mistake on the part of the company; that it was built upon the theory that Ely would speedily develop into

¹¹ 24 A. T. & T. Co. Com. L. 578, June 7, 1913, Nevada Public Service Commission.

another Butte, and that such plant would be necessary to furnish adequate service. But, while Ely is a good town for its size, it has not developed into a Butte, nor does there appear to be any immediate prospect of its doing so, although, as to that, no one can speak with certainty. . . .

Clearly, it would be unjust to require the people of a small city like Ely to pay in their electric-light charges for the mistake of the company in building an unnecessarily large and expensive plant.

The company's manager also admitted that the new plant, by reason of its great size, could not be used to serve Ely with electric light and power except at a loss. Therefore we are unable to see why the Commission should give any consideration whatever to either the cost or reproduction value of the new plant. While it has been used to serve the people of Ely with light and power, the period of such service has been very brief, and it has only been done in cases of emergency when the old plant was temporarily out of order. Hence, we must reject the view urged by respondent's counsel that the new plant having been "used" and being "useful," its value should be considered as a part of the company's investment, for the purposes of this case. . . .

It is claimed that the respondent company should be allowed for excess of power which is necessary to meet sudden and extreme demands. Our answer is that such allowance is already being made. The actual power of the plant is about 250 kilowatts after allowing 25 per cent for overload capacity, while the maximum demand thus far has been only about 109 kilowatts. It seems to the Commission that this is all the excess of power or capacity that the people should be called upon to pay for in order to receive fair and adequate service.

§ 1161. New York Commission, First District—Required future expenditures.

In estimating the fair value upon which the fair return shall be based for rate purposes, the New York Public Service Commission for the First District has in certain cases added an allowance for additional plant essential

to improve the service. It has, however, disallowed estimated expenditures for future repairs and replacements and for extensions and additions for future consumption. This matter is discussed in the opinion of Commissioner Maltbie in the Queens Borough case:¹²

The representatives of the Queens Borough Company have filed a statement of the requirements of the company in the way of improvements and betterments for the immediate future, amounting to \$174,600, of which \$87,000 relates to electricity supply; \$79,100, to gas, and \$8,500 to general property. These expenditures may be divided into three groups: (1) repairs and replacements, (2) extensions and additions for future consumption, and (3) additional plant to improve service.

The company is not entitled to capitalize or to earn a fair return upon the first group, for all repairs, renewals and replacements should be charged to earnings.

The second group should also be omitted, for the additional consumption which these additions are to supply should, and doubtless will, provide a fair return upon new investment. When a plant has once been started and is earning a fair return, additional consumption ordinarily earns not only a fair return upon the cost of plant to supply such consumption but an additional profit upon the preëxisting plant. The cost of producing a larger output is ordinarily less per unit, other things being equal. There are exceptions, but nothing has been produced to show that the general rule does not apply to this case.

Furthermore, it is not reasonable to require consumers to pay higher rates than they otherwise would be required to pay in order that these higher rates may provide funds from which to construct additional plant, which becomes the property of the company. Such plant and property is ordinarily paid for out of capital, but whether this course is followed or the stockholders voluntarily relinquish a share of their dividends in order to increase the value of their property, has no relation to this

¹² 2 P. S. C. 1st D. (N. Y.) 544, 575-576.

case. Suffice it to say that the consumer should not be required to pay higher rates and thereby make a donation to the company or to its stockholders. The company has not suggested that if such contributions be made, stock, bonds, notes or other liabilities will be issued to those who provide the funds. (Upon this subject, see opinion by Commissioner Prouty in the Railroad Rate Cases, 20 I. C. C. Rep. 265-8, and the decisions of the United States Supreme Court therein cited.)

The third group represents an entirely different class of expenditures. At the present moment, the company does not have sufficient gas and electric plant to afford proper service. The electric plant must occasionally be run beyond rated capacity, and additional equipment is necessary to prevent failure of service in an emergency. The gas plant does not have sufficient condensing and purifying capacity. As the company has expressed its willingness to provide this additional apparatus, it seems reasonable that an allowance should be made for such additions to the plants as will be necessary to handle the business during the current year.

§ 1162. Wisconsin Commission—Case of plant that had reached its capacity.

Superior Commercial Club *v.* Superior Water, Light and Power Company ¹³ involves the valuation of a water, light and power plant for rate purposes by the Wisconsin Railroad Commission. In this case the determination of fair value of the water and electric plant for rate-making purposes was complicated by the fact that both these plants had at the date of valuation reached their economical capacity. It was apparent that large extensions and additions would be necessary to adequately handle future business. In regard to the electric plant the Commission says (at page 748):

It appears that the electric plant has reached a point where the demand has entirely overtaken the capacity, so that mate-

¹³ 11 W. R. C. R. 704, November 13, 1912.

rial additions must be made in the not distant future. As it is manifestly impossible to take on added capacity in small installations, the company must anticipate the future demand to the extent that when the new equipment is added the capacity of the plant will be sufficiently enlarged to take care of the increasing demand for a considerable period of time.

The Commission states that while it does not appear equitable to make the present consumers bear the entire burden of these future additions, it appears proper to make slight additions to the unit costs. The Commission says (at pages 749-750):

As has been pointed out in former decisions, the investment in an adequate plant must be taken into consideration, since . . . what may appear to be reasonable rates when the investment line has fallen below the business line may prove to be much lower than sufficient to produce a revenue which will give a reasonable return upon the investment a year or a few years later when the investment will have to be materially increased in order to meet the demands of the business. *City of Beloit v. Beloit W. G. & E. L. Co.* 1911, 7 W. R. C. R. 187, 289.

It does not appear equitable, however, to make present consumers bear the entire burden of these future additions. It appears proper to make slight additions to the unit costs, but proper allowances must necessarily be made for such additional business which is anticipated when the extension is made.

CHAPTER XI

Unit Prices—Average Price v. Present Price

§ 1170. Definitions of unit cost.

1171. Method of obtaining manufacturers' quotations criticized—New Hampshire Commission.

AVERAGE PRICE V. PRESENT PRICE

1172. Federal Court, 1911—Alabama railroad rate cases.

1173. New Hampshire Commission—Average prices used for copper wire.

1174. New York Commission, Second District—Fluctuations in price of cast-iron pipe.

§ 1170. Definitions of unit cost.

At the request of the receivers of the Metropolitan Street Railway Company the court appointed Bion J. Arnold as a special commissioner to investigate and report to the court what in his opinion was a "fair and reasonable sum to represent the capital value" of the street railway property "for adoption in a contract for new franchises." In this report Mr. Arnold defines the elements contained in unit cost prices used in estimating cost of reproduction as follows (at pages 55-56):¹

To the quantities found in this inventory there were applied unit cost prices, thus arriving at the total cost of material and labor for the items of property covered in the appraisal. The unit cost prices cover all expense for material, tools and labor required to furnish each item in place. These unit costs contain such profit as exists in the manufacturer's price for equipment furnished, or in a contractor's price for such parts of the

¹ Report of Bion J. Arnold, Special Commissioner to the District Court of the United States, Western Division of Missouri. William C. Hook, Circuit Judge. Dated February 3, 1913.

work as naturally would be let to a contractor. In case equipment has been purchased directly from the manufacturer, whose price included the cost of erection, the only profit included in the unit cost is manufacturer's profit. In case of other parts of the property, the unit cost is intended to represent the amount for which the company is able to contract for the work in place. In no case is a general contractor's profit included in this appraisal, in addition to the profit of the direct contractor, or the manufacturer being considered a contractor as the term contractor is used in this paragraph. In the case of certain divisions of the property specifically mentioned in the detail following, the contractor's profit has been added as a part of the overhead percentage, instead of having been included in the unit price.

A similar definition of unit cost is contained in the joint report of Bion J. Arnold and John W. Moyes on the Toronto Railway Company.

The case of *City of Milwaukee v. The Milwaukee Electric Railway and Light Company*² involves the valuation of a street railway for rate purposes. The Wisconsin Commission issued an order slightly reducing the existing rates of charge. In discussing the question of overhead charges the Commission points out that its unit prices already include certain items sometimes included in the estimates of overhead additions, such as contractor's and subcontractor's commissions, hauling, storeroom, transportation of employees, labor and renewal of tools (page 120). The Commission says (at pages 107-108):

As regards the unit costs used in appraising the inventory, it is to be noted that these are in most instances five-year-average prices, designed to include contractors' and subcontractors' commissions, the enhanced cost of piecemeal as compared with continuous construction, and the cost of handling material and labor until both items enter into the actual construction.

² 11 W. R. C. R. 1, 14 A. T. & T. Co. Com. L. 197, August 23, 1912.

§ 1171. Method of obtaining manufacturers' quotations criticized—New Hampshire Commission.

In passing on an application for a transfer of the property of the Berlin Electric Light Company³ the New Hampshire Public Service Commission bases its determination chiefly on the fair value of the property for rate purposes. In considering the reproduction cost of turbines and water-wheels the Commission calls attention to a method of securing quotations for appraisal purposes that is apt to prove unreliable. The following is from the Commission's decision (at page 203):

Sanderson and Porter's figures were based upon a quotation secured by them from the manufacturer of the water-wheels in question, offering to supply the wheels, governors and equipment for \$18,500 at the factory. This quotation was shown by a telegram offered in evidence, and upon request the letter in reply to which the telegram was sent was submitted. In addition to a description of the machinery said letter contained the following statement:

"We are making an appraisal to be used in a hearing before the New Hampshire Public Service Commission. We are anxious to secure the cost-of-reproduction-new of the above equipment. The price we desire is not to be one that would be submitted in a competitive bidding, but a fair replacement value."

Assuming the persons addressed to be of ordinary intelligence and ordinarily desirous of pleasing past and possibly future customers, we should scarcely expect that the quotation obtained would be helpful in the forming of an exact judgment as to the present cost of actually installing the wheels and turbines in question.

AVERAGE PRICE *v.* PRESENT PRICE

§ 1172. Federal Court, 1911—Alabama railroad rate cases.

In Louisville and Nashville Railroad Company *v.* Rail-

³ 3 N. H. P. S. C. 174, 21 A. T. & T. Co. Com. L. 781, August 30, 1913.

road Commission of Alabama ⁴ the special master in his report overrules a contention that average prices for a series of years should have been used. He says (at page 84):

The first objection is that the estimate of the chief engineer was made in 1907 when the prices were higher than for previous years and it is insisted that the prices should have been on the average prices for a series of years. But it appears that the law contemplates values at the time of the controversy (Willcox Case, 212 U. S. 19), and the proof shows that prices have a general tendency to higher levels, and distinctly shows that the reconstruction would now cost as much as the estimates amount to. Record 365-367.

§ 1173. New Hampshire Commission—Average prices used for copper wire.

In passing on an application for a transfer of the property of the Berlin Electric Light Company ⁵ the New Hampshire Public Service Commission bases its determination chiefly on the fair value of the property for rate purposes. The Commission is disposed to attach greater weight to average price than to present price in the case of property the price of which is subject to considerable fluctuation. The Commission says (at pages 196-197):

Sloan, Huddle and Company figured the value of copper wire at the average price for the last five years, making a price per pound of 15.5 cents, while Sanderson and Porter figured upon the basis of the present price per pound, which is 19 cents. This makes a substantial difference in the item allowed for copper wire. It should be remembered, however, that present prices were not paid in the construction of these properties. The original cost of construction and the present cost of reproduction are both elements to be considered in determining fair

⁴ U. S. Circuit Court, Middle District of Alabama, Report of William A. Gunter, Special Master in Chancery, 1911.

⁵ 3 N. H. P. S. C. 174, 21 A. T. & T. Co. Com. L. 781, August 30, 1913.

value. The average price for five years is more likely to indicate the original cost than the present price.

We believe that stability of investment is quite as essential to investors in public utilities as fair value is to the public at large, and that in transfer cases and rate cases it is in the interest of both the investors and the public not to attach such weight to the single element of cost of reproduction as to allow the temporary fluctuations in prices of material unduly to affect the value of permanent plants. It would seem to be fair, and consistent with a sound policy, to attach more weight to average prices of materials over a considerable term than to prices upon any single particular date. Five years would seem to be a reasonable term. We shall, accordingly, not change this item in the tabulation of Sloan, Huddle and Company, but we shall consider and give due weight to the evidence as to the present cost of copper wire in making our final conclusion as to fair value.

§ 1174. New York Commission, Second District—Fluctuations in price of cast-iron pipe.

In *Buffalo Gas Company v. City of Buffalo*⁶ the company asked the New York Public Service Commission for the Second District to fix a rate for gas supplied to the city of Buffalo. In considering estimates of reproduction cost of the mains of the company the Commission gives detailed statistics showing enormous fluctuations in the price of cast-iron pipe. The cost of such pipe is a very important item in the estimate of reproduction cost, and if fair value for rate purposes is made to vary with the reproduction cost of the mains a reasonable rate of charge will go up and down from year to year. By taking average prices for five-year periods fluctuations would be reduced. Average cost may be nearer to actual cost, but it is not reproduction cost. The Commission considers

⁶ *Buffalo Gas Company v. City of Buffalo*, 3 P. S. C. 2d D. (N. Y.) 553, 23 A. T. & T. Co. Com. L. 244, February 4, 1913.

such violent fluctuations in cost to be a serious objection to the reproduction method. Chairman Stevens discusses fluctuations in the unit price per ton for pipe as follows (at pages 600–603):

The determination of what unit price per foot for straight pipe should be adopted is a matter of great difficulty. If we adopt the theory that reproduction-cost-new is the proper test of value, the courts have held that the value must be found as of the time of the valuation, which in this case was the year 1911. If any other period of time be taken, it is clearly a departure from the rule. There have been, however, large fluctuations in the market price of pipe. The price varies greatly from year to year, and therefore engineers have usually considered that it is unfair and inequitable to adopt the price of one year, and generally take an average of years, thus abandoning the reproduction-cost-new at the time of valuation. So far as we know, this average has been generally confined to five years. The use of an average, however, is theoretically open to serious objection. It does not give the price at the time of the valuation; it does not, unless by accident, give the price at any particular period. An average does not necessarily represent the cost at any one time, and therefore the use of an average is merely an effort to approximate what is supposed to be justice instead of adhering to any logical and consistent rule.

If we adopt the cost to the company as a unit price, that is consistent and intelligible. If we adopt the price at the time of the valuation, that is also consistent and intelligible. Either may or may not work out justice. The moment we take an average over a series of years, we admit that neither the cost nor the price at the time of the valuation does justice to both parties; and therefore by the use of an average we have a direct recognition of the principle that in fixing values for the purpose of rate making, justice and equity between the parties should be considered rather than any hard and fast rule.

When we adopt an average, however, we immediately get into difficulties. Should the average cover the period during which the pipe was laid, and this upon the theory of endeavor-

ing to approximate the actual cost to the company, upon the assumption that the actual cost can not be otherwise ascertained? If we take a period near the time of valuation, if the reproduction cost is the value, why should we take the value five years before the valuation as an element to be considered? What end of justice is to be subserved by that? It will be interesting to look into the actual figures and see how they work out. The city, in this case, has given evidence of the actual cost or market price of water pipe for a period of 19 years ending with the year 1911. The Commission has obtained the price of such pipe for the year 1912, so as to make a round period of 20 years. It is proven in the case, and undisputed, that the price of gas pipe is \$1 per ton more than of water pipe, and therefore by adding \$1 to the price testified by the witness as the price of water pipe, we get the market price of gas pipe during the period in question. These prices per ton are as follows:

1894, \$20.60; 1895, \$18.60; 1896, \$20.50; 1897, \$18.25; 1898, \$17.50; 1899, \$30; 1900, \$23.95; 1901, \$23.50; 1902, \$29.50; 1903, \$31; 1904, \$25; 1905, 3-inch pipe \$31, 4-inch pipe \$27.40, 6-inch pipe \$26.40, 24-inch pipe, \$25.90; 1906, 3-inch pipe \$36, 4-inch pipe \$34, 6-inch pipe and upward \$30.50; 1907, 3-inch pipe \$41, 4-inch pipe \$39, 6-inch pipe and upward \$31.50; 1908, \$24.50; 1909, \$23.30; 1910, 3-inch pipe \$27.90, 4-inch pipe \$25.90, 6-inch pipe \$24.40; 1911, \$23.40; 1912, \$22 to \$24.

Dividing the twenty-year period for which the foregoing figures are given into four periods of five years each, the average price for the first five years, from 1893 to 1897, both inclusive, was \$20.59. For the second five-year period, 1898 to 1902, both inclusive, the average was \$24.89. For the third five-year period, 1903 to 1907, both inclusive, the average was \$31.48; and for the fourth period, 1908 to 1912, both inclusive, the average was \$24.02. The prices for 1912 have been taken from quotations contained in *The Iron Age*.

The practical result of adopting the price prevailing in one year should be noted. If a rate investigation had been held in 1895, the price per ton would have been \$18.60; in 1907 it would have been \$40; in 1908, the next year, it would have been

\$24.50. Such results as these are clearly preposterous and can not be tolerated. The business of a company and its returns can not be made dependent upon such fluctuations as these in the market prices of iron pipe, which depend upon a large number of variable factors.

So if the average were to be adopted for the five years 1908 to 1912, it would be \$24.02. The hearings in this case, however, were had in the year 1911. If the five years immediately preceding that year had been adopted, the result would have been a price of \$29.54 per ton, as against practically \$24 for the five-year period ending with 1912. In other words, there would have been practically 23 per cent greater price allowed for the pipe upon the average of the former period over the average of the latter period. This would make a difference of \$165,000 in the cost of the pipe, and would necessitate upon the calculations elsewhere given a difference in rate per thousand cubic feet in the price of gas of \$0.0165.

The practical effect of these differences in the case it is well to consider. Upon the basis of the figures submitted by the company, there are almost exactly 30,000 tons of cast-iron pipe in these mains. At the price prevailing in 1897, when the present parties in interest took over the property, the pipe would have been worth \$547,500. Ten years later, in 1907, it would have been worth \$1,200,000; a difference of \$652,500. This difference would, upon the basis of a return of 6 per cent, make a difference with the company in its returns of \$39,150 per annum, and 6½ cents per thousand cubic feet in the rate. The following shows the value of the pipe at the average price for each five-year period:

1893 to 1897.....	\$617,700
1898 to 1903.....	746,700
1903 to 1907.....	944,400
1908 to 1912.....	720,600

The price per ton which has been adopted by the company in this investigation is \$30 for 3-inch pipe, \$25 for 4-inch pipe, and \$24 for all other sizes.

CHAPTER XII

Overhead Charges

- § 1180. Federal Court—22.2 per cent on inventory-reproduction-cost.
- 1181. Arizona Commission—12 per cent on cost-of-reproduction-less-depreciation.
- 1182. California Commission—15 per cent on reproduction cost of gas plant.
- 1183. Chicago telephone appraisal—15 per cent on inventory-reproduction-cost.
- 1184. Commonwealth Edison Company appraisal—15.4 per cent on inventory-reproduction-cost.
- 1185. Great Britain Railway and Canal Commission—Appraisal of telephone plant for purchase purposes—31.4 per cent on inventory-reproduction-cost.
- 1186. New Hampshire Commission—15 per cent.
- 1187. Kansas City street railway appraisal.
- 1188. Nebraska Commission—Telephone appraisals.
- 1189. New Jersey Commission—17.6 per cent on inventory-reproduction-cost.
- 1190. New York Commission, First District—New railway constructed by contract.
- 1191. New York Commission, First District—Methods followed.
- 1192. New York Commission, Second District—Engineering estimates of overhead charges considered excessive.
- 1193. St. Louis Commission—12.2 per cent on inventory-reproduction-cost.
- 1194. Toronto street railway appraisal.
- 1195. Toronto electric plant appraisal—15 per cent on inventory-reproduction-cost.
- 1196. Wisconsin Commission—12 per cent and 15 per cent on inventory-reproduction-cost.
- 1197. Legal and organization expenses—New York Commission, Second District.
- 1198. Reorganization expenses—Wisconsin Commission.
- 1199. Casualty insurance—Oklahoma Commission.
- 1200. Contingencies—Railway and Canal Commission of Great Britain.
- 1201. Contractor's profits—Railway and Canal Commission of Great Britain.

§ 1202. Contractor's profit—New Hampshire Commission.

1203. Interest during construction—Railway and Canal Commission of Great Britain.

1204. Promotion—Michigan Commission.

§ 1180. Federal Court—22.2 per cent on inventory-reproduction-cost.

Montana, Wyoming and Southern Railroad Company *v.* Board of Railroad Commissioners of Montana¹ involves a valuation for rate purposes. The District Court enjoined the enforcement of a rate fixed by the Montana Commission. Fair value is apparently based on cost-of-reproduction-less-depreciation. To the inventory-reproduction-cost of the property, except equipment, 10 per cent was added for contingencies. To the cost as thus increased 10 per cent was added to cover engineering, legal expense and superintendence. To the cost as thus increased, 5 per cent was added for interest during construction. In addition there was an allowance of 15 per cent for discount on securities. Circuit Court Judge Hunt speaks of the overhead allowances as follows (at page 1003):

We have therefore as a fair estimate of the cost of reproduction the sum of \$465,054.46.

Contingencies.—To this sum, according to the testimony of the engineers for both parties, there should be added 10 per cent for contingencies, or \$46,505.44. By "contingencies" are meant such things as could not reasonably have been foreseen at the time of making original estimates by engineers.

Engineering, superintendence, etc.—There should also be included in the cost of reproduction an item for engineering, legal expense, and superintendence. As there is no substantial conflict in the testimony as to the propriety of this allowance, it can be included at 10 per cent. Witnesses divided it as follows: Engineering, 5 per cent; legal expenses, 3 per cent; superintendence, 2 per cent. This allowance may therefore stand as 10 per cent upon \$511,559.90, or \$51,155.99.

¹ 198 Fed. 991, March 30, 1912.

Interest.—The master allowed, as a necessary and usual cost of reproduction, 5 per cent upon the sum of \$562,715.89, or \$28,135.79, as loss of interest during construction. This would include 5 per cent upon the use of money for the practical total cost of reproduction, and allow a year for construction itself, or allow an average of 5 per cent for the money used if construction extended over longer period. Complainant's evidence upon the point is to the effect that such a road could not be built with the same facility that one less isolated could be; that lack of organization, lack of transportation facilities, lack of ready material, would make reproduction slower and more expensive. Inasmuch as the justice of allowance of interest during construction is admitted, the basis of the master's finding is reasonable, and his estimate must stand.

Reduced to percentages on inventory-reproduction-cost of the entire property, including equipment, the overhead allowances may be expressed as follows:

Inventory-reproduction-cost		\$566,054
Overhead charges		125,795
Cost-of-reproduction-new		<u>\$691,849</u>
Amount		Per cent of inventory cost
Engineering, superintendence and		
legal expense	\$51,155	9
Contingencies	46,505	8.2
Interest during construction	28,135	5
Total overhead charges	<u>\$125,795</u>	<u>22.2</u>

§ 1181. Arizona Commission—12 per cent on cost-of-reproduction-less-depreciation.

Municipal League of Phoenix *v.* Pacific Gas and Electric Company ² and Huffman *v.* Tucson Gas, Electric Light

²21 A. T. & T. Co. Com. L. 699, June 23, 1913, Arizona Corporation Commission.

and Power Company ³ involve valuation for rate purposes of gas and electric plants by the Arizona Corporation Commission. In both cases the Commission allowed for overhead charges 12 per cent on the reproduction-cost-less-accrued-depreciation of the physical property, excluding land. In the Phoenix case the Commission says (at page 715):

A wide variation of percentages has been used by courts and commissions for overhead charges. In some instances they have been entirely disallowed. It would seem that each case must, as to certain of intangible items, be settled upon the conditions and facts found to exist. In a locality free from frosts and freezing, severe storms, where soil and climatic conditions are uniform, the hazards of construction or contingencies would be less than where the reverse conditions obtain.

In the Tucson case overhead charges are discussed at length (pages 741-744) and the Commission concludes (at page 748):

Upon full consideration of the facts presented in this case, we are of the opinion that 12 per cent should be added to the agreed physical value of the property of respondent, excepting the real estate, to cover overhead charges and all intangibles.

In *Bonbright v. Corporation Commission of Arizona* ⁴ the Federal court granted an interlocutory injunction against the enforcement of the order of the Commission in the Phoenix case. Among other reasons for issuing the interlocutory injunction the court suggests that the Commission's allowance for overhead charges was probably too small. Circuit Judge Morrow says (at page 54):

There is also a question as to the item of overhead charges. This item is not very clearly defined, but appears to include the

³ 21 A. T. & T. Co. Com. L. 725, July 9, 1913, Arizona Corporation Commission.

⁴ 210 Fed. 44, November 19, 1913.

expenses that would necessarily be incurred in the reproduction of the property. It includes the legal expenses of organization and the expenses for office, engineering, inspection, supervision, and management during the period of construction; it would also include fire and casualty insurance, taxes, and interest during the period, contractors' profits, and other minor expenses of like character. The complainant's experts estimated this valuation at 20 per cent on the physical valuation of the material and cost of construction entering into the plant; the Corporation Commission has estimated it at 12 per cent of the physical valuation of the materials and cost of construction as they have estimated these elements. Complainant's criticism of this estimate is that it is too low and does not include all the expenses that necessarily enter into the reproduction of such plant. We think this estimate needs further consideration and probable revision in a final valuation of this item.

§ 1182. California Commission—15 per cent on reproduction cost of gas plant.

*City of Palo Alto v. Palo Alto Gas Company*⁵ involves the valuation of a gas plant for rate purposes. Commissioner Thelen in delivering the opinion of the Commission states that he considers .15 per cent an adequate allowance for overhead charges on the reproduction cost of the manufacturing plant of the gas company. The company's expert had included an allowance of 26 per cent on the reproduction cost of the distribution system. The commission's engineer added 10 per cent for engineering, superintendence and organization, 5 per cent for contingencies and 3 per cent for interest during construction. Commissioner Thelen states that he doubts, in estimating the cost of producing the property new, when all the items which went into the property are clearly ascertainable, whether any allowance whatsoever should be made for contingencies. He states, however, that such items as

⁵ 2 Cal. R. C. R. 300, 18 A. T. & T. Co. Com. L. 966, March 12, 1913.

taxes and insurance should be taken care of. He says (at page 981):

There may be reason for some allowance for contingencies in addition to taxes and insurance when an engineer is estimating the cost of a plant which is to be constructed, but very little when the plant has actually been constructed and the sole question is what it would cost to reproduce the existing plant new. It should also be borne in mind that percentage adopted by the Commission as fair in one case may be found not to be fair in another. Each case must be judged on its own merits.

In the matter of ascertaining the value of the property of the Stockton Terminal and Eastern Railroad Company⁶ the Railroad Commission of California makes certain findings of fact as to certain elements usually considered in determining railway value for any purpose. The Commission, however, refrains from making a finding as to the value of the property either for rate purposes or for any other purpose. In treating of reproduction value the Commission discusses overhead charges as follows (at pages 224-225):

Before leaving the subject of reproduction value, I desire to draw attention to the percentages allowed by the engineering department for overhead expenses, under the heads of engineering, law expenses, and interest and commissions. The item of 5 per cent for engineering includes what is usually termed engineering and also an item of about 1 per cent for organization expenses. The item of 1 per cent for law expenses is a liberal one. The item of interest and commissions, 3 per cent, includes primarily interest during construction. The engineering department has assumed that it would take one year to reproduce this railroad and that all the capital would be tied up half the time or half the capital all the time. The estimate of one year is a liberal one, for the reason that this property could

⁶ 2 Cal. R. C. 777, 19 A. T. & T. Co. Com. L. 208, April 30, 1913.

probably be reproduced in considerably less time than one year on the assumption that the work is done in a single job.

§ 1183. Chicago telephone appraisal—15 per cent on inventory-reproduction-cost.

In his report in regard to the rates of the Chicago Telephone Company Professor Bemis criticizes the overhead charges allowed in the appraisal for the company by Byllesby & Arnold. These appraisers had allowed 19.7 per cent on the inventory-reproduction-cost for overhead charges, including brokerage. Professor Bemis reduces this allowance to 15 per cent. He says (at pages 33-35):⁷

After adding to the base figures the above allowance of 11 to 12 per cent for reorganization, engineering, etc., a further percentage of about 7 per cent was added to cover interest and taxes during construction, and other so-called carrying charges and cost of obtaining money. They have all been termed brokerage. This was small in the case of substation equipment, tools, vehicles and supplies, which, it is assumed, are put in service immediately upon purchase. . . .

If the value of this plant is to be determined by what it would cost to duplicate it—if all knowledge of the present location of the conduits and central stations, etc., were suddenly obliterated from the mind of man—then this allowance of 19.99 per cent for overhead on top of contractors' profits on each portion of the work is no higher than engineers often claim in such appraisals.

The writer, however, has always contended that one could not assume such a fanciful theory as the above, but must assume that the knowledge now possessed, and, indeed, in large part reduced to writing in the inventory, can not be blotted out of men's minds even for the purpose of an appraisal.

The Wisconsin Railroad Commission only allows 12 per cent

⁷ Report on the investigation of the Chicago Telephone Company submitted to the Committee on Gas, Oil and Electric Light by Edward W. Bemis, October 25, 1912.

above base figures and in its base does not include so much contract work. The Massachusetts Gas and Electric Light Commission will have nothing of this theory of reproduction, but sticks to the historical costs.

All of the installation of cables and much of the subscribers substation and some of the central office equipment were done direct by the Chicago Telephone Company, without any contractor and probably with less than 15 per cent for overhead instead of 19.99 per cent.

As for brokerage, of which the chief item is interest during construction, this Chicago company has always earned enough to pay all such charges and large dividends besides. If brokerage had been charged to construction in the past, operating expenses would have appeared less and profits greater. A greater reduction of the rates in 1907 might then have been secured. The company having secured the benefits of charging brokerage to operating expenses can hardly put the charge now into construction.

If the overhead allowed by the appraisers had been only 15 per cent, instead of 19.74 per cent in the city, and 19.99 per cent in the entire territory, the appraisal-new would have been reduced \$1,268,696 in the city, and \$1,757,684 in the entire territory.

§ 1184. Commonwealth Edison Company appraisal—15.4 per cent on inventory-reproduction-cost.

In 1913 an investigation and report on the rates charged by the Commonwealth Edison Company was made to the City Council of Chicago by Ray Palmer, City Electrician, and John E. Traeger, City Comptroller. The report fixes the fair value of the property of the company and recommends a reduction in existing rates of charge. The report fixes the allowance for overhead charges at 15.4 per cent on the inventory or base cost. The following is from the report (at page 30):⁸

⁸ Report to the Committee on Gas, Oil and Electric Light of the Chicago City Council on the investigation of the Commonwealth Edison Company,

The percentages added for overhead charges are as follows:

5 per cent for engineering and architect's fees.

$\frac{1}{2}$ per cent for insurance during construction.

5 per cent for organization, legal and contingent expenses.

$10\frac{1}{2}$ per cent.

Six per cent interest during construction, which is added successively to the above $10\frac{1}{2}$ per cent, making about 17 per cent. These percentages were added only on construction items.

In the case of real estate, 6 per cent was the only addition, and 7 per cent in the case of customers' meters, arc lamps, signs and unclassified district installations, which include horses, wagons, automobiles, furniture, incandescent lamps, repair shop and laboratory equipment. The total overhead percentage on this basis is approximately 15.4 per cent of the original estimated cost, as of September 17, 1907.

In the base cost in both of the above cases is included subcontractors' profits on all buildings and steam equipment in the generating stations and on approximately two-thirds of the underground conduit, which represents the work actually done by contract. Considering the base cost to be exclusive of contractor's profit, the total overhead charge would be approximately 18.5 per cent instead of 15.4 per cent. These allowances are deemed fair to the company.

§ 1185. Great Britain Railway and Canal Commission—Appraisal of telephone plant for purchase purposes—31.4 per cent on inventory-reproduction-cost.

National Telephone Co., Ltd., *v.* His Majesty's Postmaster-General,⁹ decided January 13, 1913, involves the determination by the Railway and Canal Commission of Great Britain of the value of the property of the National Telephone Company upon its transfer to the Postmaster—by Ray Palmer, City Electrician, and John E. Traeger, City Comptroller, May 14, 1913.

⁹16 A. T. & T. C. Com. L. 491, January 13, 1913.

General at the expiration of the company's license on December 31, 1911. Under the purchase agreement between the parties dated August 8, 1905, the purchase price was to be based substantially upon the reproduction cost of the physical property less depreciation.

In this case the parties agreed upon a so-called "fundamental cost" for a large share of the property to be valued, with the important exception of land and buildings. This fundamental cost corresponds to inventory-reproduction-cost as here used with the exception that fundamental cost was made to include casualty insurance. The fundamental cost included the price of material, the cost of transporting such material and the cost of labor in placing material in position up to and including the "gang foreman." This agreed sum together with an item for casualty insurance became the fundamental cost and was fixed at the sum of £10,239,345. Upon this fundamental cost the company claimed allowances for the following purposes:

1. Ordering and storing material.
2. Obtaining way leaves.
3. Local engineering supervision.
4. Local administrative or district supervision.
5. Head office engineering.
6. Head office administration.
7. Contractors' profits.
8. Rent, way leave payments, maintenance and insurance of plant until it becomes revenue earning.
9. Contingencies.
10. Interest during construction.
11. Cost of raising capital.
12. Cost of obtaining subscribers' agreements.

The court made some allowance under each one of the above headings except that of contingencies. For these various purposes the company claimed a total percent-

age of 75.9 on the fundamental cost. The Postmaster-General claimed that no allowance should be made under the headings contingencies, cost of raising capital and cost of obtaining subscribers' agreements. For the other purposes he claimed that an allowance of 17.76 per cent was adequate. The aggregate percentage allowed by the court was 31.4. The two parties approached the solution of the problem by two methods. The company claimed to base its estimates upon the actual overhead expenses incurred by the company in its construction work. The Post Office, on the other hand, assumed the employment of a contractor to construct the entire plant. The court held that the company's method was preferable, as it was based on actual experience. The court, however, made very substantial reductions in the amounts claimed by the company.

Inventory-reproduction-cost	£10,239,345
Overhead charges	<u>3,217,671</u>
Cost-of-reproduction-new	£13,457,016

Amount	Per cent of inventory cost
Ordering and storing material	£267,759 2.6
Local engineering supervision	660,732 6.4
District and local administration	267,759 2.6
Head office engineering and administration	560,806 5.5
Interest during construction	463,426 4.5
Contractor's profit	300,000 2.9
Rents, maintenance, way leave payments and insurance until the plant becomes revenue earning	200,000 2.0
Cost of obtaining way leaves	100,000 1.0
Cost of obtaining subscribers' agreements	150,000 1.5
Cost of raising capital	<u>247,189 2.4</u>
	<u>£3,217,671 31.4</u>

In using the above data it is necessary to note that the inventory-reproduction-cost includes a certain allowance for casualty insurance. This allowance seems to have been only £42,865 (see page 526), so that the effect on the result is not material. Moreover, the tabulation includes certain items that are not included in overhead charges in similar tables compiled for comparative purposes. Cost of obtaining subscribers' agreements, amounting to $1\frac{1}{2}$ per cent, is in the nature of going value. Cost of raising capital, amounting to 2.4 per cent, is a brokerage charge. Moreover, the inventory-reproduction-cost, £10,239,345, does not include land, buildings, tools, furniture and certain other items. It includes only (1) underground plant, consisting of conduits and cables; (2) overhead plant, consisting of poles and standards; (3) exchange equipments, and (4) subscribers' apparatus. It does not include property amounting in the aggregate to £2,055,468. In this amount was included stores, tools, furniture, fixtures and fittings amounting to £377,026; plant constructed after taking of inventory, £439,390; and land and buildings, plant and assets not subject to previous agreement, private wire business and other property, £1,225,000. In order to make the aggregate percentage comparable with similar tables, it would be particularly necessary to include the value of land and buildings in inventory-reproduction-cost.

§ 1186. New Hampshire Commission—15 per cent.

In passing on an application for a transfer of the property of the Berlin Electric Light Company¹⁰ the New Hampshire Public Service Commission bases its determination chiefly on the fair value of the property for rate purposes. In this case the company contended for an allowance in excess of 30 per cent for overhead charges.

¹⁰ 3 N. H. P. S. C. 174, 21 A. T. & T. Co. Com. L. 781, August 30, 1913.

The Commission determined that an allowance of 15 per cent would be adequate for the purposes of the case at hand. The Commission says (at page 198):

We accept the allowance of 15 per cent for overhead costs made by Sloan, Huddle and Company as representing certainly not less than the full amount of overhead costs which ought properly to be allowed for all purposes in the cases of the Berlin and Cascade companies. The same percentage may not be allowed in other cases, or may not be computed upon the same classes of property. We simply find as a fact that in this case it is at least sufficient, and accordingly allow it to stand for the purpose of consideration in making our final conclusion.

§ 1187. Kansas City street railway appraisal.

At the request of the receivers of the Metropolitan Street Railway Company the court appointed Bion J. Arnold as a special commissioner to investigate and report to the court what in his opinion was a "fair and reasonable sum to represent the capital value" of the street railway property "for adoption in a contract for new franchises." In his report Mr. Arnold explains the percentages added to inventory-cost as follows (at pages 56-57):¹¹

To the base cost of the various items of property there have been added varying percentages to cover the expense of organization, engineering and incidentals.

The percentage added for organization covers the cost of general office expense, securing bids, preparing contracts, purchase of material, salaries of officials chargeable to construction, general superintendence and legal expenses chargeable to construction.

The percentage added for engineering covers cost of preparing working plans, specifications and contracts, supervision,

¹¹ Report of Bion J. Arnold, Special Commissioner to the District Court of the United States, Western Division of Missouri. William C. Hook, Circuit Judge. Dated February 3, 1913.

progress reports, estimates for payment, together with expense of shop inspection tests and field engineering.

The percentage added for incidentals covers all the incidental construction expense to the company that lies outside of the contract cost, such as extras on the contract price. These extra expenditures may be due to small changes in design, interference with construction for various causes, the cost of trial operation, cost of insurance, and operation expense during construction.

Such percentages have been added to the exhibits containing the values of track; grading; bridges; paving; electrical distribution system; rolling stock; power plant equipment; shop equipment and buildings. In case of the exhibits containing stores, roadway tools and miscellaneous equipment and furniture and fixtures, the percentage added has been 5 per cent, which is intended to cover in lieu of organization, engineering and incidentals the cost of purchasing, handling and drayage. In the case of real estate, right of way property damages on account of construction and real estate dedicated to the municipalities, 5 per cent has been added to the appraised value, which percentage is intended to cover the cost of organization as above defined, and what might be termed the equivalent of engineering, namely, selection of site, search of title, purchase commissions, and various other expenses arising in connection with the securing of the property.

The aggregate of all of the above percentages included under organization, engineering, incidentals, or its equivalent, varies from a minimum of 5 per cent in certain exhibits to a maximum of 15 per cent in other exhibits, and for the whole property the average amounts to 11 per cent.

The total obtained after adding the percentage covering organization, engineering and incidentals represents the actual cash that would be required in reproducing the property new, but does not include the cost of obtaining the money necessary to finance the property, such as brokerage and bond discount, nor the carrying charges during construction, including taxes and interest, nor such legal expenses not properly chargeable to construction, such as those incurred in organizing the com-

pany, obtaining frontage consents and advertising proposed extensions, nor any preliminary engineering, legal or other expense incurred in initiating the enterprise.

To cover the above charges, with the exception of bond discount, 5 per cent has been added to the general summary, of which 3 per cent represents carrying charges and 2 per cent represents the general legal and organization expense. It should be noted that the aggregate of this percentage used in this appraisal is lower than that generally used in appraisals of this character for the reason that since the construction records of the company were found to be so unusually complete it was possible to prepare more accurate inventories and to include in specific exhibits certain expenditures which in the case of most appraisals it is only possible to approximate by means of general overhead percentages.

§ 1188. Nebraska Commission—Telephone appraisals.

Re Application of Lincoln Telephone and Telegraph Company for authority to increase rates ¹² involves the valuation of a telephone plant for rate purposes by the Nebraska State Railway Commission. The Commission discusses the allowance for overhead charges as follows (at pages 141-142):

The taking of testimony developed considerable controversy with regard to the question of general expense items entering into the values, and this controversy was apparently founded on the suspicion that the amounts allowed for general expense, or so-called overhead items, was excessive. The Commission is convinced that the amount of 17.2 per cent for general expenditures allowed by our engineers is conservative, particularly in view of the manner in which they have built up their unit cost. It is generally in line with the accepted percentages and theories of commissions and regulating bodies of other jurisdictions, many of which allow over 20 per cent for these items. . . .

¹² 19 A. T. & T. Co. Com. L. 134, June 26, 1913, Nebraska State Railway Commission.

Various commissions, as well as many of the prominent engineers of the country, apply the general expenses in this way; others include or conceal such expenditures in the units of costs, thereby producing apparently smaller percentages for overhead expenses, and when so treated in a valuation there will be apparently no general charges whatever. In other cases part of the general expenses are applied to the unit price and another part is set up as general expense, which thus makes it appear as though a lower ratio of general expense had been applied in the valuation.

In a dissenting opinion Commissioner Hall claims that the allowance for overhead charges is excessive. He states that the allowance instead of being 17.2 per cent of the inventory-reproduction-cost is in fact 21.7 per cent of such cost. He held that the allowance should be reduced to an amount that would equal about 7.3 per cent on the inventory-reproduction-cost. (21 A. T. & T. Co. Com. L. 682-692.)

In the matter of the application of the Lincoln Telephone and Telegraph Company for authority to revise its schedule of rates in Beatrice,¹³ the Nebraska State Railway Commission states that overhead charges allowed amount to 15.35 per cent of the entire reproduction value. This is apparently on cost-of-reproduction-new, including the overhead allowance.

§ 1189. New Jersey Commission—17.6 per cent on inventory-reproduction-cost.

In *Re Rates of the Public Service Gas Company*¹⁴ the valuation was based largely on reproduction cost. The Board added a uniform allowance of 17.6 per cent to each class of physical property with the exception of land. This

¹³ 22 A. T. & T. Co. Com. L. 898, September 1, 1913.

¹⁴ 1 N. J. B. P. U. C. 433, 15 A. T. & T. Co. Com. L. 354, December 26, 1912.

allowance was in addition to a certain indefinite allowance included in the general allowance covering all kinds of intangible property for "preliminary or developmental outlay, including preliminary engineering and legal expenses, canvassing, incorporation costs, securing franchises, organization expenses to supervise expenditures during construction." (See page 480.) In relation to the percentage fixed, the Board says (at pages 451-452):

To the estimate of bare cost there must be added certain allowances for expenditures generally called overhead charges. Forstall's appraisal included a total allowance of 15.54 per cent; Randolph allowed 20 per cent; Stone and Webster 20.5 per cent; Bartlett & Hayward 20.4 per cent; Humphreys & Miller allowed approximately 21.7 per cent. Forstall, however, stated that an additional 2 per cent ought to be added to his allowance. This is best explained by quoting from the letter transmitting his appraisal to this Board. It runs as follows:

"In these charges we cover only engineering and supervision, omissions, contingencies and interest during construction. We have taken engineering and supervision at 5 per cent, omissions, in view of the careful inventory, at only 2 per cent, and contingencies at 2 per cent. The allowance for interest is based upon a period for and a progress of construction that would call for an average payment of interest at the rate of 6 per cent for one year on the total amount expended. It will be seen that the overhead charges applied do not include any organization expenses, liability for accidents and damages during construction nor taxes during construction. Without the value of the land and with the uncertainty as to the extent of the liability for accident under the existing laws, we have not felt able to fix a definite percentage for the omitted items, but think that they would amount to at least 2 per cent of the total before any overhead charges are applied."

Eleven (11) per cent should therefore be added before computing the interest at 6 per cent, this making a total of 17.6 per cent.

After due consideration, we accept this figure as the fairest

estimate for these allowances, and apply it in connection with each class of property.

§ 1190. New York Commission, First District—New railway constructed by contract.

In *Re Application of the New York and South Shore Traction Company* for the approval of the issuance of stocks and bonds ¹⁵ the New York Commission for the First District dealt with a claim for an allowance for overhead charges on a road recently constructed by contract. The construction contract was with a corporation nominally separate from the traction company, but the construction company had no previous existence and was actually controlled by the same persons as the traction company. It appeared that the traction company could itself have done all the work with equal facility, and it was admitted by one of the officers of both corporations that the real reason for doing the work through a construction company was to have a contract that would afford a means of securing a larger issue of securities. The Commission held that the actual cost of the new construction as shown by the actual vouchers should be the chief basis of valuation in this case. The traction company had agreed to pay the construction company the actual cash cost, and in addition thereto the following percentages:

1. 10 per cent upon labor and services and 15 per cent upon materials and property.
2. 10 per cent for engineering and superintendence.
3. $7\frac{1}{2}$ per cent for services in obtaining franchises and other rights, interesting investors in the enterprise, temporary financing and other necessary promotion and financing in connection with the agreement.
4. 5 per cent "for the necessary legal services and expenses required in carrying out the purposes of this agreement."

¹⁵ 3 P. S. C. 1st D. (N. Y.) 63, February 13, 1912.

The total of these overhead charges range from 33½ to 39 per cent of the actual cost, and, as only a small portion of the work was done directly by the construction company, the overhead charges amounted in practice to 50 per cent of the total cost less the work done by subcontractors. In addition to all of the above charges, the contract provided that the construction company should render bills monthly, including the foregoing percentages, and that interest should be computed from the date the bill was rendered at the rate of 6 per cent per annum. In denying the company's request for these hypothetical allowances, Commissioner Maltbie says (at pages 80-82):

The applicants have argued that if the terms of the so-called agreement are not to be taken as the basis for the approval of securities, the Commission should accept the "actual cost" as the beginning point and then proceed to add certain arbitrary percentages for contractor's profit, engineering, superintendence, contingencies, legal services, promotion, organization, etc. We are asked to follow the precedent in certain rate cases where the Commission based its determination to a considerable degree upon the estimated cost to reproduce a plant new, deducting depreciation. The Commission does not accept this view for various reasons, the principal ones being the following:

(1) In the rate cases to which reference was made, the actual cost of the existing property was not known to the Commission. Hence, in order to get some idea of its value, the cost-to-reproduce-new-less-depreciation was used as one factor, but not the only factor. In the present case, the actual cost is known.

(2) The estimates made for overhead charges in these cases were invariably liberal, because, lacking definite information, the Commission did not wish to do injustice.

(3) There was no intention of holding in any case that estimates should be substituted for *actual facts* when ascertainable. The percentages somewhat arbitrarily fixed must be justified by facts and experience. If they do not agree with actualities,

they must be changed. Actualities are not to be pruned or inflated to agree with estimates.

(4) To follow the suggestion would be to brush facts aside and enter the realm of speculation. The applicants ask that we start with *their* actual cost. But how do we know that a construction company with experience would not have built the road at a lower net cost? If there is economy in a construction contract as compared with direct construction, it arises from this fact, viz, that the cost by the former will be less. The engineers of the Commission were not directed to make a critical survey of the undertaking, but certain features came to our attention which indicated unusual if not unwise methods. For example, ties were spaced two feet from center to center; the usual practice which is considered thoroughly good engineering calls for a distance of thirty or thirty-six inches. If a theoretical structure is to be erected as the standard for an issue of securities in this case, the basic figure of net cost must be examined.

(5) In any event, the "actual cost" of \$1,072,000 can not be accepted as it already contains \$38,000 for engineering, superintendence, etc., \$40,000 for obtaining franchises, and other considerable amounts for legal expenses, promotion, etc. No company can properly expect the Commission to include such items in net cost and then proceed to add certain percentages to cover the very items that have been included.

The applicants argue that if the Commission does not make generous allowance for overhead charges in addition to actual cost where the company does the work directly, a bad precedent will be established and companies will be encouraged to employ construction companies and do none of the work themselves. It is intimated that such a course will result in higher construction costs, higher rates and less thrifty management. The argument is unsound. If the construction company is entirely distinct and separate from the operating company, if the persons interested in the latter have no connection whatever with the former, and if ordinary common sense is followed in the management of the operating company, it will not make a construction contract unless it honestly believes it will obtain a

better plant at a lower cost than if it does its own construction work. If it does make such a contract, it naturally will consult with and obtain offers from several companies, accepting the best. Under such competitive conditions, it is not likely that any such percentages for overhead charges as appeared in the so-called agreement of October 10, 1908, would be accepted, or that the charges would be exorbitant. Further, the contract cost would not exceed direct labor cost, unless a grave error in judgment were made; and rates could not be affected, for the investment would not be larger.

These conclusions are believed to be sound, because self-interest would demand that the cost be kept down in order that no more capital be raised than necessary, that the rate of profit be as large as possible and that the service be such as to attract business. If, however, a majority in interest of the stockholders of the operating company controlled a construction company, it would be to *their* profit to make a contract between the two companies by which the construction company would get a large profit. The minority would suffer, but the majority would profit at the expense of the minority. The wrongs that have resulted from construction contracts have arisen largely from such inter-company or individual relations.

The Commission holds that *actual cost as shown by actual vouchers should be the basis of action in this case*, subject naturally to any evidence that may throw doubt upon the propriety of any item or that may indicate the omission of any item. Vouchers are not conclusive against all other evidence, but they are not to be cast aside without reason.

§ 1191. New York Commission, First District—Methods followed.

Contractors' Profit, Engineering and Administration, Contingencies and Incidentals.—The net cost of labor and materials having been determined by the Commission, an allowance is added to cover general contractor's profit, engineering, supervision, contingencies and incidentals where these allowances seem justifiable. It has been a

general practice for the Commission to allow 10 per cent for general contractor's profit and from 10 per cent to 15 per cent for engineering, supervision, contingencies and incidentals upon the items to which these charges would properly apply. Even where a general contractor is assumed, his profit is not allowed upon land, rolling stock, tools, supplies, fixtures, etc., as such items are not purchased through a general contractor. In the Metropolitan Street Railway Reorganization case (3 P. S. C. 1st D. N. Y. 113, 142) Commissioner Maltbie discusses this subject as follows:

Mr. Connette also maintained, and it is believed properly so, that a 10 per cent profit upon the cost of rolling stock is unjustified. Cars are ordinarily bought directly from the manufacturers, who bear all expenses connected with the designing, construction and testing of the cars, and the prices charged are sufficient to cover all such costs. The unit prices adopted by Mr. Connette and Mr. Uebelacker, the witness for the applicants, include delivery in New York City, the cost of assembling and other incidental expenses. The applicants have presented no evidence to show that a general contractor's profit of 10 per cent above such unit prices has ever been paid, and it would be considered wasteful and extravagant to pay a general contractor a profit of nearly \$1,000,000—10 per cent of net cost—for doing practically nothing. Indeed, companies ordinarily buy direct from the manufacturers, and this practice is considered economical and prudent. The same may be said regarding the other items upon which Mr. Connette does not allow a general contractor's profit. A company needs no middle man to negotiate for the purchase and delivery of tools, supplies, fixtures, etc.

The allowance for general contractor's profit is in addition to the allowance for subcontractor's profit, which is taken care of in the unit prices upon which the net cost is based. The general question is discussed by Commis-

sioner Maltbie in the Queens Borough case (2 P. S. C. 1st D. N. Y. 544, 561) as follows:

It is common for a new company to let a contract for the erection of the initial plant to a construction company. If the latter were paid the cost of labor and materials plus 10 per cent, to cover certain items of expenditure, the price would not be considered unreasonable. But such a plan is not generally followed throughout the life of an undertaking where thrifty, progressive management exists. Additions and extensions are commonly engineered, constructed and supervised by the operating company itself without the intervention of a general contractor. However, if a general contract were let for the reproduction of the Queens Borough plant and overhead charges computed at the usual rates, the total cost would probably be less than given in the above tables, for the increase in overhead charges would be more than offset by economies in the purchase of materials and apparatus in large quantities and by the more economical methods of construction on a large scale.

The percentages allowed, moreover, vary somewhat with the particular items. Thus, in valuing a street railway property but 5 per cent was added to the cost of rolling stock to cover all these items. "Cars are ordinarily bought directly from the manufacturers, who bear the expense of designing and testing and who charge prices sufficient to cover all such costs." (2 P. C. S. 1st D. N. Y. 347, 395.) In some cases the general allowance has been 15 per cent, while in others it has been but 10 or 12 per cent. In the latter cases there has been a very thorough checking and rechecking of the inventory, with the result that omissions have been largely obviated; where the inventory is complete, the allowance for incidentals and contingencies is relatively small. The Commission illustrates this (3 P. S. C. 1st D. N. Y. 113, 144) by stating that in its experience in planning subways it is unable to foresee just what conditions will be met and just

what conditions will be necessary. An additional station or connecting track may be found desirable as the work progresses; these would not appear in the original plans, but in an appraisal of the system when completed they would all appear and would be appraised. "Consequently, when looking ahead, it is customary to allow 5 or 10 per cent for extras, contingencies, etc., and the history of subway work to date shows that these amounts are sufficient. But when looking backward, the things of which there is no record or inventory are few and not expensive." Upon this point see also 2 P. S. C. 1st D. N. Y. 347, 394-97.

The Commission is gradually collecting accurate data on the question of proper percentage allowances through the examination of accounts, the approval of securities, and the supervision of rapid transit construction contracts. The indications are that the allowances heretofore made have been quite liberal. Thus, in the Queens Borough case the Commission notes the fact that one account, for which details are given in the records of the company, shows an expenditure of \$377,000 for labor, materials and equipment, and that the items for engineering, administration, etc., did not in this case exceed 4 per cent. In this case, apparently, there was no payment to a general contractor (2 P. S. C. 1st D. N. Y. 544, 561.) The Commission is disinclined to allow for expenditures under these heads for work of which there is no record and which is based largely on hypothetical conditions of reproduction. Thus in the Twenty-third Street Railway Company case (4 P. S. C. 1st D. N. Y. 283, 304), Commissioner Maltbie says:

The other important differences relate principally to work of which there is no record. Upon such items, it is apparent that there may be great difference of opinion of engineers, and it is difficult to determine which is the more nearly correct. While some allowance will be made for these uncertainties, it should

be understood that any company which does not keep its records in proper shape can not expect a public body to approve appraisals and estimates which appear extravagant, have no foundation except the opinion of an engineer employed by the company, and which are not approved and confirmed by the opinions and investigations of the engineers of the Commission.

The Commission holds that the particular kind and amount of allowances included should in general follow the methods by which the particular plant in question has been developed. This appears to be of particular importance in the case of allowance for piecemeal construction and contractor's profit. It is evident that the entire appraisal must be treated as a unit. Otherwise duplications or omissions are sure to occur. In the Kings County Lighting case (2 P. S. C. 1st D. N. Y. 659) the Commission's allowance for the above items amounted to 15.4 per cent on the inventory-reproduction-cost.

Preliminary and Development Expenses.—Under the terms "preliminary and development expense" the Commission includes allowances to cover promotion expense; organization of the company; franchise and consent expenses; interest and taxes during construction; trial operation; adjustment of parts, etc. These are mostly items such as are ordinarily classified as overhead charges. Certain of the items, such as trial operation and adjustment of parts, are sometimes considered in estimating going value. For many of the items included under the general head of "preliminary and development expense" there is little data upon which an estimate of cost may be based. The Commission gives great weight to any evidence showing actual expenditures incurred by the company for these purposes. It is inclined to give slight consideration to estimates of reproduction cost for these items based on hypothetical conditions. The allowance made by the Commission is not given as a percentage of net cost, but is

a lump sum which under the conditions applicable to the particular company seems to the Commission adequate to cover all of these expenses. This allowance as a percentage upon the reproduction cost of physical property, including land, would naturally vary considerably for different companies. Many expenses are nearly the same in amount regardless of the size of the company. In the Kings County Lighting case the allowance for preliminary and development expense amounted to 11.7 per cent on the inventory-reproduction-cost.

In the Metropolitan Street Railway Reorganization case the company claimed an allowance of \$4,000,000 for initial payments for franchises, and an allowance of \$740,000 for interest on franchise security deposits. The Commission allowed but \$151,000 for the first item and nothing for the second item. The company's claim based upon hypothetical conditions is discussed by the Commission as follows (3 P. S. C. 1st D. N. Y. 113, 160):

The applicants do not claim that the companies have ever spent such sums, and the record does not show that such amounts have been expended. Only one witness was presented who testified in support of these items in detail, and his estimates were based upon unwarranted hypotheses. He assumed, for example, that franchises are to be secured under the statutory restrictions that exist to-day and under the present requirements of the Board of Estimate, the Public Service Commission and the courts, and that the company would be allowed six years from the date of issue of such franchises within which to begin operation upon all of the lines. He might have gone further and said that, as the city can not grant a franchise for more than twenty-five years with a renewal period of twenty-five years, and as many of the franchises contain no time limit, the value of these franchises is many millions. He might have said the tendency is toward strict supervision of public service corporations, and the future will bring forth even more stringent requirements. The rights of the present companies will in-

crease in value with every movement for closer supervision of franchise grants. Hence their present value should be still further increased for these reasons. But to authorize securities upon such grounds would clearly be to capitalize every movement for public control.

A similar hypothetical claim in relation to the expense of obtaining consents of property owners is disposed of by the Commission in the same case as follows (3 P. S. C. 1st D. N. Y. 113, 162-163):

The applicants produced no records of actual cost which support the estimate of the witness. The two instances found showed an average cost of nearly \$2 per street foot upon Lexington and Columbus Avenues. When asked to explain why his estimate was so much in excess of this figure, the witness said:

"I may say that the construction and reconstruction at the present time of such a system as the Metropolitan Street Railway Company would be under competitive conditions; there would be probably other companies applying for the same streets, and there would also be alternate routes applied for and possibly the Commission or the Board of Estimate and Apportionment might not allow certain routes and other routes would have to be selected, so that the cost per front foot of the streets upon which the lines were finally built would have to take in all of those other factors. In some cases it would be found impossible to secure consents on certain streets and the work would have to be discontinued and begun on some other street."

It is evident that the witness assumed that there were no railroads in the streets, that consents were to be secured *de novo*, that the cost-to-reproduce theory should be applied and that various factors would more than double the actual cost of record. If one were to follow such a theory, there is no limit to which an imaginative mind might go, and what would happen is pure conjecture. For example, if there were no railroad in a single street, the values of property might be so greatly affected

that property owners would rush to deposit consents without expense to the company. Probably horse-car lines would not be permitted to come into being, and many miles of tracks now being operated would be eliminated. Should these be omitted from the appraisal, therefore? In other instances, consents that have been secured could not be obtained for any reasonable sum.

§ 1192. New York Commission, Second District—Engineering estimates of overhead charges considered excessive.

*Fuhrmann v. Buffalo General Electric Company*¹⁶ involves the valuation of an electric plant for rate purposes. In this case the Public Service Commission for the Second District refused to accept the percentages for overhead expenses as testified to by the engineering experts. The Commission found from its own investigation of the actual cost to the company that the engineering estimates of overhead expenses were excessive. Chairman Stevens in delivering the opinion of the Commission discusses this subject as follows (at pages 750–751):

It will be noted that the final result is built up by calculating each percentage, not only upon the labor and materials cost, but also upon the amount of each previous percentage. The result is that the percentages thus computed aggregate 49 per cent of the labor and materials cost.

How this method of calculating percentages affects the final result may best be shown by the following instance: The company, about 1903, purchased at one time 3000 enclosed arc lamps for street lighting from the General Electric Company. The unit price of these enclosed arc lamps assumed by the witness in his evidence was \$21.70, and to that he added, as is shown by the preceding table, certain percentages, and the following shows the result which the company claims as the value of these enclosed arc lamps at the present time, and that

¹⁶ 3 P. S. C. 2d D. (N. Y.) 739, 18 A. T. & T. Co. Com. L. 1094, April 2, 1913.

without being installed, the installation cost not appearing in these figures:

3000 municipal arc lamps at \$21.70	\$65,100.00	
Engineering and supervision, 5 per cent	\$3,255.00	
Organization of business, 6 per cent.	4,101.30	
Taxes and interest during construction, 4 per cent.	2,898.25	
Piecemeal construction, 10 per cent.	7,535.45	
Promoter's profit, 5 per cent.	4,144.50	
Brokerage, $1\frac{2}{3}$ per cent.	<u>1,453.46</u>	
		<u>23,387.96</u>
Total		\$88,487.96

NOTE: Each percentage is computed upon preceding percentages.

Dividing the total value, \$88,487.96, by 3000, the number of lamps, we find that the company claims as the value of each of these lamps uninstalled \$29.49. As a matter of fact, the actual cost to the company for these lamps uninstalled was \$13.53 $\frac{1}{3}$. So far as has been disclosed by an examination of the books, the company never paid for a single enclosed arc the sum of \$21.70, and the average cost of all enclosed arc lamps which it has bought, exclusive of these 3000, was \$16.75 each. We are unable to understand, and no explanation has been offered us, why a company which has been in existence for years should be entitled to charge a promoter's profit of 5 per cent upon new arc lamps which it buys for its service. We are also unable to understand why a 10 per cent charge, amounting in this case to \$7535.45, is proper for piecemeal construction in the case of buying 3000 arc lamps at one time.

Passing this matter, however, and assuming that some percentage charges are proper, at least in certain cases, the amount of such percentage is a matter of serious consideration. The discrepancies in the evidence of the witnesses upon these percentages as applied to the facts of this case were such as to require attention, and accordingly three engineers were asked to

prepare detailed estimates of the engineering cost which would be necessary in order to reconstruct new the existing plant of the respondent. The engineers kindly complied with this request and the result is interesting. . . .

It will be noted that engineer A finds the total of salaries and expenses to be \$217,022, engineer B to be \$82,800, and engineer C \$103,750. The total for salaries, wages, and fees given by engineer A is \$192,872, as against \$55,200 given by engineer B. Engineer B gives a total profit to the engineering firm of 50 per cent, amounting to \$41,400, but nothing is offered to show why the engineering firm should have any profit at all. It is not necessary to do more than simply to call attention to the details of this table as showing that engineers indulge in the widest latitude of opinion as to the cost of the work with which they should be the most familiar, namely, the engineering. If the Commission were required to pass upon this evidence, it would simply have to make a guess as to which engineer is right, and the Commission believes that the elimination of guessing in a case of this character is an end greatly to be desired and to be attained if possible.

§ 1193. St. Louis Commission—12.2 per cent on inventory-reproduction-cost.

In its report on the Southwestern Telegraph and Telephone Company the St. Louis Public Service Commission ¹⁷ considers the valuation of a telephone plant for rate purposes. In the following tabulation the overhead charges allowed in this appraisal are shown in percentages of inventory cost:

Inventory-reproduction-cost	\$8,575,274
Overhead charges	1,520,164
Cost-of-reproduction-new	<u>\$10,095,438</u>

¹⁷ Report of St. Louis Public Service Commission to the Municipal Assembly of St. Louis on the Southwestern Telegraph and Telephone Company, October 14, 1913.

	Amount	Per cent of inventory cost
Engineering	\$423,127	4.9
Insurance during construction	18,077	.2
Taxes during construction	78,989	.9
Interest during construction	531,971	6.2
Total overhead charges	<u>\$1,052,164</u>	<u>12.2</u>

§ 1194. Toronto street railway appraisal.

The report by Arnold and Moyes on the valuation of the Toronto street railways was prepared in accordance with a resolution adopted by the Toronto City Council, and was intended to form the basis for municipal purchase. The report discusses the allowance for overhead charges as follows (at pages 18–19):¹⁸

The percentage added for organization covers the cost of general office expense, securing bids, preparing contracts, purchase of materials, salary of officials chargeable to construction, and general superintendence and legal expenses chargeable to construction.

The percentage added for engineering covers the cost of preparing working plans, specifications and contracts, supervision, progress reports, estimates for payment, together with expense of shop inspection, tests and field engineering.

The percentage added for incidentals covers all incidental construction expense to the company that lies outside of the contract cost, such as extras in the contract price. These extra expenditures may be due to small changes in design, additional expense due to interference with construction for various causes, the cost of trial operation, the cost of insurance, and operating expense during construction.

Such percentages for organization, engineering, and incidentals have been added to the divisions of the physical value

¹⁸ Report on the Toronto Railway Company and portions of the Toronto and York Radial Railway and the Toronto Suburban Railway Company situated within the city limits, by Bion J. Arnold and John W. Moyes, September 20, 1913.

representing the cost of track, electrical distributing system, rolling stock, power plant, equipment. No such percentage has been added to the items of stores, shop equipment and tools, furniture and fixtures, real estate and buildings. In the case of exhibits containing stores, shop equipment and tools, furniture and fixtures, 5 per cent has been added, which is intended to cover in lieu of organization, engineering and incidentals, the cost of purchasing, handling, and drayage. In the case of real estate and buildings, no percentage has been added, as the valuation furnished by Mr. J. C. Forman, Assessment Commissioner of the City of Toronto, has been accepted. The aggregate value of the above percentages included under organization, engineering or incidentals, or their equivalents, varies from a minimum of 5 per cent in certain exhibits to a maximum of 15 per cent in other exhibits, and for the whole property the average amounts to 6.4 per cent.

The total obtained after adding the percentage covering organization, engineering and incidentals represents the actual cash that would be required in reproducing the property new, but does not include the cost of obtaining the money necessary to finance the property, such as brokerage, bond discount, nor the carrying charges during construction, including taxes and interest, nor such legal expenses not properly chargeable to construction, such as those incurred in organizing the company, or any preliminary engineering, legal or other expense incurred in initiating the enterprise. Additional percentages must be added to represent the expense of these items, which, although not items of construction cost, are items of financial and general organization cost which as truly enter into the cost-to-reproduce-new as do the items of construction cost above referred to.

While bond discount as such did not enter into the cost of creating the property of the Toronto Street Railway Company, the cost of securing money to construct the property represented by discount on loans, etc., did not enter into the cost of producing the property, and it has been assumed in valuing the property that these discounts amounted to not less than 5 per cent.

The overhead percentage allowed for carrying charges during construction and general legal expense incurred in financing has been 5 per cent, of which 3 per cent represents the carrying charges, and 2 per cent the general legal and organization expense. The total resulting from the application of the above percentages to the base costs represents the total cost incurred in reproducing new the physical property, and therefore includes not only the cost of all material and labor, together with suitable percentages for contractor's profit, organization, engineering and incidentals, but as well the expense that would be incurred in organizing and financing the property. The cost thus determined includes no development expense or promoter's profit.

§ 1195. Toronto electric plant appraisal—15 per cent on inventory-reproduction-cost.

The report by R. A. Ross & Co. on the valuation of the Toronto Electric Light Co.¹⁹ was prepared in accordance with a resolution adopted by the Toronto City Council, and was intended to form the basis for municipal purchase. The report includes as a lump allowance for overhead charges 15 per cent on the inventory-reproduction-cost.

§ 1196. Wisconsin Commission—12 per cent and 15 per cent on inventory-reproduction-cost.

The case of *City of Milwaukee v. The Milwaukee Electric Railway and Light Company*²⁰ involves the valuation of a street railway for rate purposes. The Commission issued an order slightly reducing the existing rates of charge. In previous decisions the allowance for overhead charges had not exceeded 12 per cent on the inventory-reproduction-cost of the physical property, including the land. The Commission states that in general this percentage has consisted of four items: 4 per cent

¹⁹ Report of R. A. Ross & Co. on the Toronto Electric Light Properties, October 13, 1913.

²⁰ 11 W. R. C. R. 1, 14 A. T. & T. Co. Com. L. 197, August 23, 1912.

for engineering and superintendence; 2 per cent for organization and legal expenses; 3 per cent for interest during construction, and 4 per cent for contingencies. The Commission discusses these allowances at some length (pages 118-122), and holds that they are adequate in the present instance. The Commission points out that 3 per cent is not an unreasonable allowance for interest, in view of the fact that a large amount of stores and supplies, included as working capital upon which a reasonable return was allowed, is material which enters into new construction, and that construction has been piecemeal and has frequently been placed in operation during the year of construction (page 121). The Commission stated that the objection that its allowance of 12 per cent excluded contractors' or organizers' profits, working capital, discount on bonds, etc., is not valid, in view of the fact that these items are included in the unit prices or otherwise provided for in the valuation or rate of return allowed. The Commission says (at page 120):

Isolated cases are cited, at and since the hearing, of percentage additions considerably in excess of the engineer's allowance. A careful examination of this evidence, however, discloses that these instances are based upon a definition of overhead additions which includes such items as hauling, store room, transportation of employees, labor and renewal of tools, and contractor's profits, all of which are included in the unit prices of the engineer of the Commission, and such items as discounts on bonds, organizer's profit, preliminary legal expenses, working capital, etc., all of which are classed in our analysis in a separate group apart from the other tangible portions of the property.

The Commission seems to hold that the overhead additions should be based not upon the hypothetical assumptions of a strict reproduction method, but rather

upon the actual conditions under which the plant has been built up. The Commission says (at page 122):

In the conflicting estimates of what are proper overhead additions confusion has evidently arisen as to the purpose of the appraisal. If the point of view is one of reproducing a hypothetical or identical plant, the overhead cost is concededly greater than if the appraisal is one of reproducing or estimating company's cost or sacrifices in building up the property.

The question is somewhat akin to the controversy as to the inclusion of paving which has not been paid for by the utility, upon the ground that its inclusion is necessary in the reproduction of a hypothetical or identical plant. Undoubtedly in appraisements for rate-making purposes judicial notice must be taken as to whether additional allowances such as those in question have been included in operating expenses and have been borne by the consumer.

*City of Milwaukee v. Milwaukee Gas Light Company*²¹ involves the valuation of a gas plant for rate purposes by the Railroad Commission of Wisconsin. In numerous previous valuations the Commission had allowed 12 per cent on the inventory-reproduction-cost, including land, to cover all overhead charges. In the present case without giving any specific reason therefor the Commission allows 15 per cent. The company claimed that this allowance was inadequate and this claim is discussed by the Commission in its decision at considerable length. The Commission says (at pages 444-445, 450):

The respondent introduced testimony by several witnesses to show that the allowance of 15 per cent used by the staff in their valuation to cover the so-called overhead expenses, which include interest during construction, engineering, superintendence, omissions, contingencies, taxes, insurance, etc., is insufficient. The proper allowance for this item can not be stated in general, since it depends upon many variable conditions, par-

²¹ 12 W. R. C. R. 441, 24 A. T. & T. Co. Com. L. 708, August 14, 1913.

ticularly upon the make-up of the unit prices to the sum of which it is to be applied. All of this overhead might be added to the individual items, but since a great deal of it is not easily assigned to any particular item, it is customary to add it to the total. Practice, however, is not at all uniform as to what should properly be included in unit prices and what should be carried as overhead. A knowledge of the make-up of unit prices is therefore absolutely essential to the determination of the proper allowance for overhead.

Two of the witnesses, Mr. Bruce and Mr. Carpenter, are members of manufacturing concerns engaged in the construction of gas plants. While their testimony throws some light on the situation, their figures apply to the overhead charges of their own contracts, rather than to the allowance which should be added to the estimates of the Commission's engineers. Both of these contractors have installed equipment for the respondent company and the figures used by the staff include in the unit price the overhead referred to; for example, the price used for a holder is the price of the unit in place. This price covers design, material, shop and installation labor, freight, various overhead charges, and profit. The overhead here included is the overhead to which the witnesses referred and is different from the additional percentage which must be added to the cost of this holder to cover the indirect expense which the purchaser must incur. What has been said in regard to holders applies, to a large extent at least, to retort house equipment, condensing and purifying apparatus, water gas machinery, coal handling apparatus, etc.; in fact, to all equipment which is customarily furnished erected in place by the manufacturer or contractor. In all such cases, the prices used by the staff are intended to cover the reasonable value of this equipment as erected. The testimony of these witnesses, however, shows that a good deal of the engineering is done by the contractor and that on a considerable portion of the property under consideration the contractor assumes the risks of installation. This would tend to decrease the allowance necessary for use of tools, contingencies, insurance and damage, omissions, etc. . . .

Giving due consideration to the methods employed by the engineers of the Commission and the elements which enter into the unit prices used by them, we believe that the addition of 15 per cent to the sum of the various items as shown in the foregoing tabulation represents in the present instance a fair allowance for the indirect or overhead cost.

In *Re Purchase Oshkosh Water Works Plant*, 12 W. R. C. R. 602, decided September 27, 1913, the Commission includes an allowance of 15 per cent for overhead charges, and says at page 607: "It is the belief of the Commission that in the case of many of the larger plants an allowance of 12 per cent of the cost of specific construction is not sufficient." In this case, however, the Commission comments on the claim of the city that the existing plant had been constructed piecemeal and that engineering superintendence for extensions has been furnished by the manager of the company as a part of his regular duties, for which he had been paid a salary and which had been included as an operating expense. The Commission states that if this be true "the fact is entitled to consideration in fixing the final sum to be paid the company by the city for the property to be taken over."

§ 1197. Legal and organization expenses—New York Commission, Second District.

In *Buffalo Gas Company v. City of Buffalo* ²² the company asked the New York Public Service Commission for the Second District to fix a rate for gas supplied to the city of Buffalo. The company claimed an allowance of 1 per cent on the assumed reproduction cost to cover legal and organization expenses. Chairman Stevens discusses this allowance as follows (at page 619):

There is no proof whatsoever that the legal and organization

²² *Buffalo Gas Company v. City of Buffalo*, 3 P. S. C. 2d D. (N. Y.) 553, 23 A. T. & T. Co. Com. L. 244, February 4, 1913.

expenses of the new company would amount to this sum. There is no proof that the legal and organization expenses of the constituent companies amounted to any such sum, or to any sum which is not fully represented in the capital stock of those companies. There is no proof of the reorganization expenses which were incurred in the consolidation of the constituent companies, even if it be assumed that such expenses were a proper charge to capital account. Beyond the bare expression of opinion, possibly, that this is a fair amount as compared with actual expenses elsewhere, without proving in any respect what the expenses were or the circumstances under which the services were performed, there is nothing to justify a 1 per cent charge, more than there would be to justify a 2 per cent charge or one-half of one per cent charge. It is possible that in some view of this case an item should be allowed for organization expenses. That will be more properly discussed in connection with such items generally in the case of a company which has been long in existence, and reaping great profits in the past, as is the case with this company. The item as it stands should be disallowed, without, however, at this time passing upon the question of whether some amount should not be considered.

§ 1198. Reorganization expense—Wisconsin Commission.

Superior Commercial Club *v.* Superior Water, Light and Power Company ²³ involves the valuation of a water, light and power plant for rate purposes by the Wisconsin Railroad Commission. In determining fair value the Commission included an allowance of \$5,458 to cover the cost of the reorganization of the company. The Commission says (at page 739):

This item is relatively small and needs no extended discussion. Expenditures of this character are a necessary and legitimate part of the cost of the business and have for this reason received consideration in the Milwaukee case for rate-making

²³ 11 W. R. C. R. 704, November 13, 1912.

purposes. *City of Milwaukee v. T. M. E. R. & L. C. et al.*, 1912, 11 W. R. C. R. 1, 156.

§ 1199. Casualty insurance—Oklahoma Commission.

In *Bolen v. Pioneer Telephone and Telegraph Company the Corporation Commission of Oklahoma* values a telephone plant in the city of Ada for rate purposes. The Commission refused to include an allowance for casualty insurance, as it considered that in this case such allowance would not be justified. The Commission says (at pages 52-53):²⁴

Defendant's Exhibit, J. F. Noble "A," takes into consideration an amount designated as casualty insurance during construction and considers such an amount as a factor in the cost and consequently in the value of the plant. The Commission's engineer in his testimony makes the statement, which appears to be uncontradicted, that this amount represents an arbitrary and theoretical charge that should not be considered. It appears to the Commission that if such an amount were shown to represent money actually paid for casualty insurance carried in the construction of the plant in question, there would be ground for its consideration; but in the light of the evidence the Commission can not escape the conclusion that its engineer is correct in his statement in this regard, and that the defendant's engineer has injected into his valuation of this plant an improper and unreal factor in using this amount.

§ 1200. Contingencies—Railway and Canal Commission of Great Britain.

*National Telephone Co., Ltd., v. His Majesty's Postmaster-General*²⁵ involves the determination by the Railway and Canal Commission of Great Britain of the value of the property of the National Telephone

²⁴ Order No. 770, December 4, 1913, Oklahoma Corporation Commission.

²⁵ 16 A. T. & T. Co. Com. L. 491, January 13, 1913.

Company upon its transfer to the Postmaster-General at the expiration of the company's license on December 31, 1911. Under the purchase agreement between the parties dated August 8, 1905, the purchase price was to be based substantially upon the reproduction cost of the physical property less depreciation.

In dealing with the various items composing the overhead percentage the court refused to make any allowance whatever for contingencies. The court states that all allowances made have been based on the company's calculations of actual cost and that consequently all the factors of cost have been ascertained and provided for. The court held that an incomplete inventory could not be made a basis for such an allowance, as the inventory had been checked by both parties and all particulars and quantities ascertained and agreed upon. Sir James Woodhouse in delivering his judgment speaks as follows in regard to contingencies (at page 533):

With regard to the item of £296,034 for contingencies, I do not see how it can be substantiated. It is calculated at 2 per cent on the contract cost. It is no doubt usual when a contractor makes a tender to construct works or plant to include in his estimate a percentage of this character to provide against miscalculation in quantities and other elements of uncertainty. But we are dealing in the case put before us by the company with calculations based on what it actually cost the company to do the work for themselves, where all the factors of cost are ascertained and provided for. . . . Mr. Cook, the assistant engineer, admitted that the item could not be regarded from the point of view of a contractor's percentage, but said it was intended to cover any omissions or errors in the inventory. But the inventory is an inventory checked by both sides, and the particulars and quantities are ascertained and agreed—so here, again, I fail to see the applicability of the item proposed to be included in the cost, and in my view, therefore, there is nothing to be added in respect of this item.

§ 1201. Contractors' profits—Railway and Canal Commission of Great Britain.

National Telephone Co., Ltd., *v.* His Majesty's Postmaster-General also discusses the question of contractors' profits (see above, § 1200). In allowing for overhead expenses the court followed the general method of computation put forward by the company. This method was to base overhead percentages on actual cost to the company during a period of years. The company claimed, however, that in addition to actual expenditures incurred it should have an allowance for contractors' profits. The company claimed that inasmuch as it was able to do the construction work more cheaply than it could be done by a general contractor, it should have the benefit of such economy. The court held, however, that such an allowance would be inconsistent with the theory on which the cost of replacement had been based. In so far, however, as contractors had actually been employed a reasonable allowance was made by the court to cover this item. Sir James Woodhouse in delivering his judgment in this case speaks as follows in regard to contractors' profits (at pages 531–532):

The sum of £1,434,163 is claimed under the head of contractors' profits, but it is difficult to see how the company can possibly, consistently with their case, except in respect of the plant put up by contractors, include any such amount in their construction cost. As we have seen under the head of head office engineering, Sir Alfred Cripps abandoned the over-all charge he had, in the first instance, put forward, on the ground that it was inconsistent with the basis of the employer doing the work for himself on which he framed his case on economic grounds for arriving at the construction cost. Equally would it be inconsistent, as it appears to me, to include a huge over-all charge of 10 per cent representing what a contractor might be supposed to receive, though there is no evidence that a contractor ever did receive such a profit in the work of this character, as remuneration for his skill and labor and risk, and covering, indeed,

other items, which are in the company's particulars of cost claimed for and allowed by us under heads of claim. The economy which is so strongly urged by the company as accruing from the employer doing these works himself, instead of resorting to the employment of contractors, would largely disappear if the employer were to debit a huge contractors' profit, which he never incurred or had to pay in respect of their construction. . . .

It was urged by Sir Alfred Cripps that to refuse any allowance for this item would be to penalize the company for their economy. The same argument might have been applied to the over-all charge in the case of head office engineering. I should certainly not desire to do anything that could be justly regarded in the light of penalizing the company. . . . But in weighing the matter, one must not overlook the reasons why we were so strongly pressed by the company's counsel to regard the case from the standpoint of the employer doing the work himself, and in disregarding the opposite view, and in accepting that view, the allowance which we have made in giving effect to it. Taking all the facts into consideration, and bearing in mind that, to a comparatively small extent, the company did employ contractors, I think £300,000 is a reasonable allowance.

§ 1202. Contractor's profit—New Hampshire Commission.

In passing on an application for a transfer of the property of the Berlin Electric Light Company²⁶ the New Hampshire Public Service Commission bases its determination chiefly on the fair value of the property for rate purposes. The Commission holds that a general contractor's profit should not be allowed unless a profit was in fact paid and the unit prices adopted do not already include an allowance for general contractor's profit. The Commission says (at page 197):

That a contractor's profit may properly be allowed in those cases where valuation is made of a utility plant of such a nature

²⁶ 3 N. H. P. S. C. 174, 21 A. T. & T. Co. Com. L. 781, August 30, 1913.

that it was constructed under contract, so that such profit was actually paid, may be conceded, but we do not feel that an entirely theoretical cost should be allowed in computing the value of any utility property. The aim should be to fix a fair value, and we believe that actual costs, where obtainable, constitute evidence which should be given very great weight in the fixing of such value. In fixing their unit prices in this case Sloan, Huddle and Company included a contractor's profit upon those portions of the property which would ordinarily be constructed under contract.

In this case it is not suggested that any general contractor's profit was in fact ever paid, and it is not believed that in the construction of plants of this class in New Hampshire such cost ordinarily is incurred.

§ 1203. Interest during construction—Railway and Canal Commission of Great Britain.

National Telephone Co., Ltd., *v.* His Majesty's Postmaster-General ²⁷ involves the determination by the Railway and Canal Commission of Great Britain of the value of the property of the National Telephone Company upon its transfer to the Postmaster-General at the expiration of the company's license on December 31, 1911. The court allowed £463,426 for interest during construction. This was about 4½ per cent on inventory-reproduction-cost. The allowance was based on a construction period of two years and an interest allowance for one-half of that period, or one year.

§ 1204. Promotion—Michigan Commission.

The application of the Northern Michigan Power Company ²⁸ involves an approval by the Michigan Railroad Commission of the proposed capitalization of a hydroelectric enterprise. The Commission held that the

²⁷ 16 A. T. & T. Co. Com. L. 491, January 13, 1913.

²⁸ 19 A. T. & T. Co. Com. L. 244, June 11, 1913, Michigan Railroad Commission.

capitalization of a reasonable amount to cover the cost of promoting is justifiable. Commissioner Hemans in delivering the opinion of the Commission says (at pages 253-254):

Another item which it seems to the Commission is properly included in the value of the lands for hydraulic purposes, under the Commission's general designation of "reasonable compensation for the time, energy, and ability bestowed in their acquisition," is the item quite generally denominated "promoter's profit," but which this Commission believes would be more truly descriptive if denominated "cost of promotion." The man who devotes his genius to enlisting support for great enterprises of public benefit, which his clearer foresight and keener vision has first perceived in the great world of material development, has performed services quite as valuable to the public as the engineer who later makes computations, plans and specifications, or the man who in any other position contributes to the creation of the utility. . . .

In the matter under consideration, request is made to include in capitalization, as compensation for promotion, $2\frac{1}{2}$ per cent on the estimated cost. The Commission is persuaded that in cases of this character the item of cost of promotion attaches peculiarly to the lands and flowage rights of the development, for if it is to be justified, as we have indicated our belief it should be, as compensation for a peculiar service incident to every comprehensive scheme of material development, then it should in principle inure to the value of the thing in relation to which the particular service was rendered. It should be compensation to the pioneer, rather than to those who claim neither originality of conception nor to have assumed any of the risks of development.

The application asks for the allowance of approximately \$300,000 as compensation for promotion. As a part of the capitalization allowed for land values, the Commission believes such a sum under all the circumstances to be a reasonable one.

CHAPTER XIII

Discount on Bonds

§ 1210. Federal Court.

1211. Commonwealth Edison appraisal, Chicago—Discount and brokerage.

1212. Railway and Canal Commission of Great Britain—Brokerage.

1213. Kansas City street railway appraisal.

1214. Michigan Commission—Brokerage.

1215. New York Commission, Second District.

1216. Wisconsin Commission.

§ 1210. Federal Court.

Montana, Wyoming and Southern Railroad Company *v.* Board of Railroad Commissioners of Montana ¹ involves a valuation for rate purposes. The District Court enjoined the enforcement of a rate fixed by the Montana Commission. In determining fair value the court approved an allowance of 15 per cent for discount on bonds. The 15 per cent was estimated on the cost-of-reproduction-new of the physical property, excluding equipment and excluding the allowance of 5 per cent for interest during construction. Circuit Court Judge Hunt discusses this subject as follows (at page 1003):

Discount on securities.—The master allowed 15 per cent on \$562,715.89, or \$84,407.38, as a necessary and usual item of cost of reproduction. There was no evidence offered on behalf of the Railroad Commission tending to dispute the conditions which the witnesses for the complainant said existed generally throughout investing communities, namely, that a railroad, such as the one under investigation, is only able to make its **financial arrangements** by regarding as a part of the construction

¹ 198 Fed. 991, March 30, 1912.

cost to which it is subjected a discount representing the difference between the amount derived from the sale of its bonds and the amount which the bonds must eventually cost the company. Recognition of discounts on securities, based upon the considerations just expressed, has been made by the courts. Of course there never could be any allowance whereby a corporation can be allowed to capitalize its own lack of credit; but where the bonds are sold at a reasonable discount, and bear a low rate of interest, it would seem to be the equivalent of selling the bonds at par with a high rate of interest. Here the 15 per cent seems to be reasonable, the testimony showing that upon such a discount the bonds are put upon an equality in marketable conditions with the bonds of some of the very largest and most successful railroads in the country.

§ 1211. Commonwealth Edison appraisal, Chicago—Discount and brokerage.

In 1913 an investigation and report on the rates charged by the Commonwealth Edison Company was made to the City Council of Chicago by Ray Palmer, City Electrician, and John E. Traeger, City Comptroller.² The report fixes the fair value of the property of the company and recommends a reduction in existing rates of charge. No allowance is made for discount or brokerage in the fair value fixed. The report states, however, that “an amount is included in operating expense to represent the annual allowance for amortization of bond discount” (page 32).

§ 1212. Railway and Canal Commission of Great Britain—Brokerage.

National Telephone Co., Ltd., *v.* His Majesty's Postmaster-General³ involves the determination by the

² Report to the Committee on Gas, Oil and Electric Light of the Chicago City Council on the investigation of the Commonwealth Edison Company, by Ray Palmer, City Electrician, and John E. Traeger, City Comptroller, May 14, 1913.

³ 16 A. T. & T. Co. Com. L. 491, January 13, 1913.

Railway and Canal Commission of Great Britain of the value of the property of the National Telephone Company upon its transfer to the Postmaster-General at the expiration of the company's license on December 31, 1911. Under the purchase agreement between the parties dated August 8, 1905, the purchase price was to be based substantially upon the reproduction cost of the physical property less depreciation.

In this case the Commission allowed £247,189, or about $2\frac{1}{2}$ per cent, of the inventory-reproduction-cost to cover cost of raising capital. The company claimed an allowance of £757,657. This claim included discount on bonds and stamp and registration taxes. In the course of the argument the company abandoned its claim for an allowance for discount and taxes. The court concluded that there should be a fair allowance for commissions and brokerage. This point was strongly contested and one of the three commissioners dissented. The prevailing judgment, written by Justice A. T. Lawrence, contains the following extended discussion of this question (at pages 507-509):

The method prescribed by the House of Lords for ascertaining value is to consider what it would cost to construct the plant, that is, would, as a fact, cost.

The first question, then, is, would it, in fact, cost anything to provide the necessary capital? The company have given evidence, by way of example, that it cost them 4.41 per cent to raise $5\frac{1}{2}$ million pounds. No one has given evidence that it would not cost anything, nor has that proposition been put forward even in argument. I know of no commodity and no service that can be procured as of right for nothing. I am clear that, as a fact, money can not be procured for nothing. It was further argued that this item of cost was to be attributed or charged to the business and not to the plant. In so far as this argument excludes the cost of raising any capital other than

that required in order to construct the plant, I agree with it. We have nothing to do with the cost of raising any capital other than the amount which would be necessary in order to construct. If the argument means that even this part of the capital raised should be attributed to the business and not to the plant, I am unable to follow it. It seems to be founded upon some conventions of bookkeeping, proper in their own sphere, but which have no relation to the problem under consideration, viz, what would it cost to construct the plant? The cost of getting the money to pay for the materials, labor, etc., has no nearer connection with the "business" than the materials and labor themselves.

It has been said that it can not be an element adding to the value of the plant. The thing transferred here is the plant *in situ*, and the cost of construction, less depreciation, is the method by which the value has to be ascertained. It follows that every expense which is necessary in order to construct is an element to be considered, and it has to be considered because it is necessary in the process of construction. The thing to be transferred, say a pole, must be procured, transported and erected; each of these steps is necessary to the existence of the pole *in situ*; each of these steps costs money, and raising this money is itself an expense and is one as necessary to the existence of the pole as any of the other steps.

This is clear even in the case of one pole, but, when the money required amounts to millions, it becomes clearer, for no one has millions of pounds in his pocket, or even, I suppose, on current account at his bankers. The result of this is that this cost stands out and is seen clearly. It has not become merged in less conspicuous matters, as it may do in illustrations like motor-cars and pianos put to us by the Solicitor-General. The price of these, as of all things in which there is competition, is governed by the market price, but even this, if the market is to be stable and sound, must cover all the items of expense necessary to production. It is not true to say that this involves the proposition that the value of plant varies with the credit of the constructor. The cost to be considered is the cost to the hypothetical constructor who is a person in good credit; or, in other

words, what it must cost any constructor, even the Postmaster-General, who has the credit of the state on which to raise the necessary capital.

Again, this does not involve the conclusion that the cost of raising capital should be added to the price again if the property should be transferred a second or a third time; it is an item of value once and once only, namely, on the construction of the plant, and it is merely because it is necessary in order to construct that this item comes into the calculation at all. That it must be included is apparent, if it is tested in a case in which the sale takes place immediately upon the completion of the construction.

Assume the plant to cost £10,000,000 to construct, out of which £300,000 has been properly and necessarily spent in raising the capital required to pay for its construction. If the constructor were to receive the cost less this £300,000, he would get £9,700,000 only and would lose £300,000 by the transaction. It makes no difference whether the constructor does the work himself or does it by means of a contractor. Whoever raises the money necessary to pay for the materials, labor, etc., is put to the expense of raising that money. Every necessary cost must appear in value, otherwise no sane person would ever knowingly construct; for, if it does not appear in value, it must result in loss, and to say it should be relegated to loss is to deny the principle upon which we are agreed, that value should be ascertained by finding what it would cost to construct the plant. Unless, then, it can be affirmed that money, unlike other commodities, can be procured without expense, it is clear that this item must be included at its proper amount. In other words, we must either refuse to follow the formula approved by the House of Lords and agreed to by the parties, or find, as a fact, that money can be procured for nothing. I am not able to adopt either of these alternatives. I think a reasonable amount must be allowed under this head of claim. I have cut this item down to a low figure, and the amount stands, after depreciation, at the sum of £247,189.

The dissenting opinion written by Sir James Wood-

house contains the following discussion of this subject (at pages 521–525):

I now pass to the consideration of the items of claim, and I will deal first with that relating to the cost of raising capital about which I have the misfortune to differ from my colleagues.

It raises a very important point of principle, and may establish a precedent in arriving at the statutory values under the Tramways Acts. With the utmost respect I adhere to the view which not only I took, but all the members of the court took until a late stage of the hearing, hence our telling the Solicitor-General at the outset of his reply, that he need not trouble to argue it. The company include as part of the cost of constructing their plant a sum of £757,657 for the cost of raising capital.

First, let us see how the claim arises. It is shown on a statistical table of Mr. Anns', the secretary of the company, marked "A.A.2." It deals with the money raised by the company for a period of ten years, namely, 1900–1909, inclusive. He says in that period the company raised capital to the amount (in round numbers) of $5\frac{1}{2}$ millions, and incurred expenses in so doing to the amount of £243,371, which is a percentage of 4.44, and he then applies this percentage to the construction cost to arrive at the cost of raising it. On an examination of the figures in the table it will be seen that this capital of $5\frac{1}{2}$ millions was raised, as to $3\frac{1}{2}$ millions, in shares, and the balance of 2 millions in debenture stock. The expenses charged comprise £85,000 for commission; £85,000 for brokerage; £66,000 for discount; £3,750 for share capital registration duty; £2,062 for stamp duty; and £1,500 for advertising. I merely note in passing that, had the secretary extended his table a little further back, it would appear from page 249 of the blue book that the company raised the money three years earlier, namely, in 1897, not at a discount, but at a premium of £15 per cent.

It is also not unimportant to note that, in his speech in reply, Sir Alfred Cripps abandoned the items of discount and duties, and asked only for the allowance of the brokerage and commission, but I fail to see that there is in principle any distinction between these items of expense.

The question is whether the cost of raising the money to pay for the construction of the plant can be taken into consideration in ascertaining the value of the plant. What we have to do is to ascertain the value of the plant. It is no part of our duty, and it is not within the ambit of our inquiry, to ascertain how the money (the equivalent of that value) to pay for that plant shall be raised, whether in stocks or shares, or otherwise, or what will be the cost of raising or obtaining it. It is, with great respect, in my humble judgment, a wholly independent and irrelevant matter. For the purpose of ascertaining the statutory value of a tramway under the Tramways Act, it has been laid down that the value is what it would cost the purchaser to construct it.

To find out what it would cost to construct, then, is one of the steps to ascertain the value of the plant. It seems, necessarily, to follow that only those expenses which bear on the value of the thing constructed can be properly taken into account. Those expenses, forming the actual cost of construction, having been ascertained, represent the value. That value has then to be expressed and paid in the current coin of the realm. How, or where, that current coin is obtained, or what is paid for obtaining it, has nothing in the world to do with the value of the thing which is the subject-matter of the payment. If it were otherwise, the cost of construction, and equally, the value of the thing constructed, would differ according to the financial standing of the person who constructs. This could not be more pointedly and pithily expressed than in the little dialogue between the learned judge and Mr. Gill, the company's engineer, on the question being first raised on the eighth day of the proceedings, at page 244 of the Shorthand Notes, when the judge said to Mr. Gill, who was giving evidence on the point: "You see, if what it costs to [raise the money] becomes an element of value of the plant, then the worse the credit of the person providing the plant the greater the value of the plant," to which Mr. Gill replied: "Yes, I see that, that is so." It obviously must be so. Take the case of two persons who construct the same article, the actual amount expended in producing the article—that is, the cost of constructing it—is identical in the two cases.

Now, assume in the one case the man who constructs, or pays for the construction, has the sovereigns at his command ready to pay the amount which has been expended in construction. In the other case the man has not the necessary capital at command, and, therefore, let us suppose he obtains it by selling out securities at a loss, or by borrowing it, and paying something to procure the accommodation. In the case of the man who had his money at command, he has constructed by merely sacrificing interest on his capital which he has put into the structure, and this we have actually allowed under another head of the claim. In the case of the man who had not the sovereigns available, but has made a sacrifice to obtain them, or has incurred expense, more or less considerable, according to his circumstances and his credit, to borrow them—then according to the view of my colleagues, that loss, or that expense, must be added to the cost of the thing constructed, and becomes an accretion of its value. The cost, therefore, of the thing constructed must, by hypothesis, differ according to whether a man has to pay for raising the money, or is in a position to find it without incurring that expense. I fail utterly to see how this can be right, when we bear in mind that cost is only material as a step to ascertain the value of what is constructed. It is, in fact, making the value of the thing constructed vary with and be dependent on the financial ability or credit of the constructor.

Again, the cost of raising capital is not the cost in the sense that the vendor is saving anything to the buyer, because the buyer has to raise his capital when he comes to pay for what he acquires. Let me develop this a little. The company in this case say they incurred so much in raising the money to pay for what they constructed, and therefore the value must include that cost. Let me assume that another company, instead of the Postmaster-General, is the purchaser of the undertaking, and that the purchase price at cost includes say £500,000 as the amount paid by the vendor company for raising its capital to pay for the structure. The value of the thing constructed stands in the books of the purchasing company, therefore, with this £500,000 as part of it, for which there is, in fact, no actual asset corresponding to the item. Now the purchasing company must

also raise its capital to pay the vendor company this price, and the cost of raising this money must, in turn, equally become to it an element in the value of the thing bought. Thus, in the case of the second company, precisely the same asset will stand in its books enhanced in value by the amount it spent on raising its capital, and we have only to imagine a series of similar sales to perceive what an enormous value this same original asset will ultimately attain. This point, again, could not be stated in better or more convincing language than that used by the learned judge in answering Mr. Gill's contention, at page 244, when he said, "the buyer has to raise his capital also. According to that, you see, if the cost of raising the capital is an element of value in a plant, the second time the plant changes hands, there have been two costs of raising capital, and so it would go on every time it changes hands. The plant would be increasing in value by reason of the cost of raising the capital necessary to purchase it." That, in my opinion, is the sound view, and the only logical conclusion from the premises underlying the company's contention. I have heard no argument and can find none which displaces it. It is the view taken by the only experienced men of business who gave evidence about it, viz, by Sir William Peat, the eminent railway lawyer and manager, who has had a very large professional experience in valuations, and Sir George Gibb, whom we all know as an accountant. I do not see my way to regard this item as one which we can rightly include in the value to be ascertained.

§ 1213. Kansas City street railway appraisal.

At the request of the receivers of the Metropolitan Street Railway Company the court appointed Bion J. Arnold as a special commissioner to investigate and report to the court what in his opinion was a "fair and reasonable sum to represent the capital value" of the street railway property "for adoption in a contract for new franchises." As one element in fixing fair capital value Mr. Arnold estimated cost of reproduction. He added to cost-new 5 per cent to 10 per cent to cover bond

discount. In regard to this percentage, Mr. Arnold says (at pages 57-58): ⁴

The amount added for bond discount is 5 per cent, based on the total money which the company is to provide, including the overhead percentage for carrying charge and general legal and organization expense. This percentage represents the minimum discount at which it is estimated that such securities bearing a 5 per cent interest rate could be marketed, provided the investment were protected and safeguarded by a franchise or ordinance which equitably defined the relations between the street railway company and the municipalities in which it operated. The bond discount in case of a similar unprotected investment would ordinarily vary from 8 per cent to 12 per cent, and, as a matter of fact, the discount on all securities, bonds and notes of the Metropolitan Company has averaged in excess of 10 per cent.

The bond discount on the securities of Chicago traction properties, where the investment is protected and where the ordinance allowance has been 5 per cent, has on some issues considerably exceeded and on other issues been slightly less than this amount, and the average for all securities issued since the ordinances went into effect has been materially more than 5 per cent. Other things being equal, the rate of discount will be smaller as the ratio between the total bond issue and the value of the physical property is decreased. When reproduction cost includes, as one item, discount of bonds sufficient to cover the entire cost of the property, it necessarily follows that a higher rate will prevail, and a 5 per cent rate of bond discount will be sufficient only on the assumption that the investment will be protected by fair franchise stipulations in municipal ordinances.

To determine the value of the property on the basis of an unprotected investment, tables have been prepared in which the percentages representing the cost of financing have been increased, the carrying charges, general legal and organization

⁴ Report of Bion J. Arnold, Special Commissioner to the District Court of the United States, Western Division of Missouri. William C. Hook, Circuit Judge. Dated February 3, 1913.

expenses having been included as 7 per cent, and bond discount as 8 per cent, a total of 15 per cent. This percentage represents the probable cost of financing, should the investment be unprotected by fair ordinance provisions.

Mr. Arnold recommends, however, at page 29, that all bond discount, brokerage and other intangible values shall be amortized out of future earnings.

§ 1214. Michigan Commission—Brokerage.

The application of the Northern Michigan Power Company ⁵ involves an approval by the Michigan Railroad Commission of the proposed capitalization of a hydroelectric enterprise. The company claimed a specific allowance for brokerage in addition to permission to issue its bonds at a discount. The Commission held that there was no justification in including an item for brokerage as distinct from the allowance for bond discount. Commissioner Hemans in delivering the opinion of the Commission says (at pages 254–255):

The application filed herein makes request for the allowance of an item of 2½ per cent on the cash cost of construction and physical properties to cover the item of banking and brokerage. Unquestionably every comprehensive development of the character being considered finds it expedient to enlist the services of a reputable broker who must be compensated for the investigation he shall make into the basis of the securities, which, if found satisfactory and desirable, he shall recommend to his clientage, but it is a service that is incidental to the sale of the securities or the borrowing of capital. It is an item most intimately connected with bank discount, which is in part the rate which a given concern must pay for its loans. We believe that under prevailing practices, in view of the discount at which it is desired that the bonds to be authorized herein may be sold

⁵ 19 A. T. & T. Co. Com. L. 244, June 11, 1913, Michigan Railroad Commission.

and at which like securities are sold, there is no justification for the inclusion of this item in capitalization, but that it should be included with the bond discount and ultimately extinguished by amortization from the profits of operation.

§ 1215. New York Commission, Second District.

In *Buffalo Gas Company v. City of Buffalo* ⁶ the company asked the New York Public Service Commission for the Second District to fix a rate for gas supplied to the city of Buffalo. The company claimed an allowance of about 17 per cent on the assumed reproduction cost to cover discount on bonds. The Commission refused this allowance on the ground that there was no evidence that any such cost had been incurred in the construction of the plant. Chairman Stevens says (at pages 617-618):

Such results as the foregoing would seem to demand that good reasons should be adduced in favor of this item for cost of capital before it can be allowed. The only reason submitted by the company in favor of this allowance is that if a new plant identical in all respects with the existing plant were to be constructed, it would be a cost which would have to be borne by the corporation or its stockholders.

There is no proof that any such cost or any part of it was incurred at any time by the people constructing the existing plant, and upon a fair view of the history of the constituent companies the evidence is overwhelming that no such cost was ever incurred. The evidence is also conclusive as hereinbefore set forth that the parties investing their capital in the plants of the constituent companies have been abundantly rewarded for all the capital they actually put in. There is no proof that any one is proposing to reproduce the existing plant; and it is certain that if the present plant were wiped out and a new gas plant in the city of Buffalo were to be constructed, it would not be a reproduction of the present plant. It is equally certain that if any

⁶ 3 P. S. C. 2d D. (N. Y.), 553, 23 A. T. & T. Co. Com. L. 244, February 4, 1913.

person were proposing to purchase the present plant, this item of cost of capital would form no part of the basis of the offer.

§ 1216. Wisconsin Commission.

The case of *City of Milwaukee v. The Milwaukee Electric Railway and Light Company*⁷ involves the valuation of a street railway for rate purposes by the Wisconsin Railroad Commission. The Commission issued an order slightly reducing the existing rates of charge. The Commission holds that under certain circumstances a discount on bonds should undoubtedly be included as a portion of the intangible value of the property. Whether or not the discount is to be included as a portion of the property account will depend upon the interest rate allowed by the Commission. In the present case the Commission holds that its allowance of a rate of return of about 7½ per cent, covering both interest and profits, is ample to allow for all expenses of sale, including any discount on the securities issued. The Commission says

(*at page 157*):

Whether or not the discount rate is to be included as a portion of the property account will depend upon interest rate allowed the utility. It is obvious that a 4 per cent bond can not be expected to sell at the same premium as a 6 per cent security, and the amount of the interest rate allowed the utility must determine whether or not the discount is to be included. In the present case it appears that the allowance for interest and profit is ample to allow for all expenses of the sales and discount upon the securities issued.

Superior Commercial Club v. Superior Water, Light and Power Company⁸ involves the valuation of a water, light and power plant for rate purposes. The Commission included an allowance of \$100,000 for discount on bonds,

⁷ 11 W. R. C. R. 1, 14 A. T. & T. Co. Com. L. 197, August 23, 1912.

⁸ 11 W. R. C. R. 704, November 13, 1912.

out of a total discount of \$298,948 incurred by the company in issuing its securities. The Commission discusses this subject as follows (at pages 740-741):

The respondent maintains that all discounts on the 6 per cent bonds, which were largely to offset the risk incurred by investors, should be included in the valuation of the property of the company, but concedes that discounts on the 4 per cent bonds should be excluded. It is pointed out that the allowance for bond discounts as a legitimate part of the valuation for rate-making purposes must be determined not on the basis of present conditions but with regard to the capital hazard involved at the time of issue.

In investigating these bond discounts the question to be determined is, whether the capital necessary for the construction of the plants at that time could not have been secured upon any better terms. It appears that by 1889 Superior was "intoxicated with another boom," and that the financial storm that swept the country in 1893 was severely felt in Superior, and was succeeded by a period of slow recovery. It is noted that before the panic the bonds sold by the respondent were disposed of at a fairly large discount. It is claimed that the first bonds sold during the height of the boom might have been sold to local investors at a higher rate than 80. It does not seem probable, however, that a higher price could have been secured from outside investors in a practically untried enterprise with very little earning power. It is difficult to see on what grounds a part, at least, of the bond discounts made should not be included in the cost of the plant. In the case before us of the total discounts on the 6 per cent bonds \$188,000 was charged by the company to plant and \$14,250 to profit and loss. Of the amount discounted on the 4 per cent bonds \$25,250 was charged to plant and \$71,445 to profit and loss. If business enterprises can not secure capital on any better terms, then it necessarily follows that such bond discounts must represent a part of the cost of securing the capital. . . .

It is of interest to note that the engineers' appraisal of the present value, after deducting material and supplies on hand

and non-operating property, leaves an aggregate of \$1,327,071. It would appear that an amount not to exceed \$100,000 out of the total discount of \$298,948 is properly made a part of value of the property for rate-making purposes and represents the estimated amount of discount over the prevailing rate of interest necessarily made in an open market to secure funds to construct the plants.

*City of Green Bay v. Green Bay Water Company*⁹ involves the valuation of a water plant for rate purposes. In determining fair value in this case the Commission states that some addition to the physical value should be made to cover discount on the bonds. The company asked for an allowance of \$25,000 for the discount on the bond issue of \$400,000 made in 1910. These were 6 per cent bonds, which appear to have been sold at 93¾. The Commission held that it was not proper in this case to include the total amount claimed for discount, but that some (unstated) amount should be included to cover discount (page 253).

⁹ 12 W. R. C. R. 236, January 6, 1913.

CHAPTER XIV

Working Capital

§ 1230. Federal Court.

- 1231. Arizona Commission—Gas and Electric plant.
- 1232. Chicago telephone appraisal.
- 1233. Commonwealth Edison appraisal, Chicago.
- 1234. Nebraska Commission—Lincoln telephone plant.
- 1235. New Jersey Commission—Public Service Gas Company case.
- 1236. New York Commission, Second District—Buffalo gas rate case.
- 1237. Wisconsin Commission.

§ 1230. Federal Court.

In *Western of Alabama Railway Company v. Railroad Commission of Alabama*,¹ Special Master William S. Thorington discusses allowance for working capital as follows (at pages 95–97):

The next objection urged by respondents' counsel is to the item of current assets set forth in Exhibit W. H. S. No. 11, which represents the capital invested in the cash requirements of complainant, it being necessary for every company operating on the scale usual with railroads to have on hand, either in cash or in some other available form, sufficient means to discharge its current liabilities, which, of course, must be as large as such current liabilities; therefore, in the estimate of the actual present value of the property used in the operation of complainant's business as a common carrier in the state it is proper to take into consideration the amount of cash assets, or that which represents cash, in which the capital of the company is invested to meet its current operating expenses. . . .

In Exhibit W. H. S. No. 2 it is made to appear that the average cash per month required to meet current obligations was \$330,826.30. . . .

¹ U. S. District Court, Middle District of Alabama (Northern Division), Report of William S. Thorington, Special Master, April 3, 1912.

In view of the showing in the testimony that a prudent business policy requires there shall be kept at hand not only sufficient cash to meet immediate, current liabilities, but a sufficiency for 30 or even 60 days in advance, rather than to risk having to borrow money for such obligations, the special master does not feel that this testimony should be ignored, and therefore finds and reports that the average of such monthly working assets as hereinabove ascertained is not unreasonable as part of the estimated cost to reproduce complainant's property.—Ev., Vol. III, 1884–1886.

*Des Moines Gas Company v. City of Des Moines*² involves the valuation of a gas plant for rate purposes. The special master included an allowance of \$140,000 for working capital in a total fair value of \$2,240,928. The report of the special master upheld the rates established by ordinance and the court approved his report. In regard to the allowance for working capital District Judge Smith McPherson comments as follows (at pages 209–210):

If the question were now for decision, I would have much doubt as to the item of working capital, \$140,000. The master was liberal with the gas company by allowing that item. I fail to find satisfactory evidence in this tremendous record as to that item, although there is evidence bearing thereon. But every business man knows that the gas company daily makes deposits, and daily checks out for expenses, and at stated periods for interest on its bonds and for dividends. Whether it receives interest on its daily balances does not appear, nor does it appear whether it must pay interest on its overdrafts, if it has such. And if it has on hand \$140,000 as working capital, why such sum would not earn interest is not made to appear. I only mention this to show that the master has not borne down on the gas company.

In *Bonbright v. Corporation Commission of Arizona*³ the Federal Court granted an interlocutory injunction

² 199 Fed. 204, August 21, 1912. ³ 210 Fed. 44, November 19, 1913.

against the enforcement of an order of the Corporation Commission of Arizona fixing the rates of charge of the Pacific Gas and Electric Company. Among other causes assigned for issuing the interlocutory injunction the Court holds that the Commission allowed an insufficient amount for working capital. Circuit Judge Morrow says (at page 54):

We come next to the valuation of what is termed the working capital. The experts for the complainant value this item at \$50,000. The Corporation Commission valued it at \$23,500. We think the latter sum is too small for the current business of the corporation. The corporation must carry a certain amount of supplies and should pay its bills for repairs and supplies at the end of the week or month as they come due and should not be obliged to await the collection of its revenues from the rates collected by the company from its customers. There is always more or less delay in collecting rates. The company should therefore have constantly on hand what might be termed a revolving fund to pay its own current obligations and keep its credit good and enable it to transact its business promptly and satisfactorily to everybody concerned. We think that a working capital of \$50,000 is a reasonable capital for the corporation in this case and should be allowed as a valuation in its plant.

§ 1231. Arizona Commission—Gas and electric plant.

*Huffman v. Tucson Gas, Electric Light and Power Company*⁴ involves the valuation of a gas and electric plant for rate purposes by the Arizona Corporation Commission. The Commission discusses the allowance for working capital as follows (at pages 744–745, 748):

The respondent claimed as working capital amounts ranging from \$27,000 to \$30,000 for the combined properties. Various methods were used in determining what the amount of working

⁴ 21 A. T. & T. Co. Com. L. 725, July 9, 1913, Arizona Corporation Commission.

capital should be. By one method the accounts receivable and supplies and cash necessary to render the operations of the respondent successful were offset against the deposits, accounts payable and other items.

It was contended that supplies and cash on hand would naturally be much larger in Tucson than in an Eastern community located closer to the markets and financial interests controlling the operations of the system. By another method, comprising the difference between the current assets and current liabilities of the respondent, it is contended that the allowance should be in excess of \$30,000, and that the respondent was actually using in excess of that sum at the time of the hearing.

On the other hand, the engineer of the Commission, the Attorney-General and the City Attorney lay great stress on the fact that unnecessary investments in supplies and fuel should not be allowed, and that if the respondent has more cash on hand to meet its daily business needs than is actually required in the normal course of its business an allowance therefor should not be made. . . .

We further hold that \$12,500 for the electric department and \$4,000 for the gas department should be allowed for working capital. It should be noted that this amount does not include the value of considerable construction material already allowed for in the inventory of the company's property.

§ 1232. Chicago telephone appraisal.

In his report on the rates of the Chicago Telephone Company Professor Bemis discusses the proper allowance for working capital as follows (at pages 39-40): ⁵

The appraisers not only appraised working assets, such as supplies, at \$921,596, but they assume that the company needs, in cash or its equivalent, \$1,050,000. This form of working capital they divided between the city, \$887,250, and the suburban division, \$162,750. The total when added to the supplies

⁵ Report on the investigation of the Chicago Telephone Company submitted to the Committee on Gas, Oil and Electric Light by Edward W. Bemis, October 25, 1912.

makes a total working capital of \$1,971,596. Even the estimate made by Mr. Hall, of \$1,750,000, seems large.

Expenses for one and one-half months would be one-eighth of the \$8,836,827.49 of total expenses in 1911. In other words, it would amount to \$1,104,603.44. In a company which collects its revenue monthly and receives some of it in advance, a working capital equal to the expenditures for one and one-half months would appear to be ample, especially in view of the fact that it can obtain at least 30 days' credit on most of its purchase of supplies. Now, one-eighth of the entire payroll for the year 1911, of \$6,332,485, is only \$791,561. The current assets of cash and dividends, bills and accounts receivable, and prepaid expenses at the close of 1911, exceeded the accounts payable by only \$475,212.17. Such a sum added to the entire appraised value of the supplies, of \$921,596, would be only \$1,396,808.17.

In view of all this, \$1,500,000 would appear to be a maximum amount necessary to allow for all forms of working capital. This is \$578,404 in excess of supplies on hand. However, as the matter relatively is not of large importance, \$1,750,000 may be used for the entire working capital, or \$828,404 for that portion of the same, viz, cash or its equivalent, for which the appraisers allow \$1,050,000. A reduction from the appraisal may thus be made of \$221,596.

§ 1233. Commonwealth Edison appraisal, Chicago.

In 1913 an investigation and report on the rates charged by the Commonwealth Edison Company was made to the City Council of Chicago by Ray Palmer, City Electrician, and John E. Traeger, City Comptroller. The report fixes the fair value of the property of the company and recommends a reduction in existing rates of charge. The report contains the following discussion of the allowance for working capital (pages 46-47): ⁶

⁶ Report to the Committee on Gas, Oil and Electric Light of the Chicago City Council on the investigation of the Commonwealth Edison Company, by Ray Palmer, City Electrician, and John E. Traeger, City Comptroller, May 14, 1913.

In determining the amount to be added to investment to represent working capital, the proper unit has been considered the amount of money necessary to run the company until such time as the return from sales of current and merchandise will defray the expense plus the profit from operation. This figure has been added to the amount held in stores and coal reserve, and together with a minimum cash balance makes the total allowance for working capital.

The factors entering into the computation of time are length of reading period, time necessary for billing and time allowed for payment. If it takes the full time of each of these factors, the measure of total expense is the ratio that the total of days in all factors bears to the full year. If meter reading, billing periods and pay periods for a class of service are made from day to day, *i. e.*, distributed throughout the month, the expense necessary to furnish that class of service is not accumulated from the day of commencing service to time of payment, but is continuously returned, so that approximately only one-half of the total expenditure is involved at any time. Because of the fact that all bills are not of the same amount, but will vary from month to month, a factor of 60 per cent of the total time has been used for those classes of service in which readings are distributed.

The various periods for each class of service have been furnished by the company, the ratio of that period to the year determined, and the percentage applied to the year's revenue of that class of service. The ratio of operating expense to income from operation has then been applied to give the amount of expense incurred in producing the recorded amount of revenue.

The company's coal supply would vary from year to year, depending on local conditions, such as strikes and famines, but it was considered that a supply sufficient to operate the company for an average three months' period would be an ample allowance.

The remaining items in the accompanying schedule are self-explanatory, the sum total of \$2,535,690, which amounts to 16.39 per cent of the gross revenue (including merchandise

sales), providing a total allowance deemed fair for average conditions.

While it may be maintained that a minimum cash balance of \$500,000 is not sufficient protection to the operators of a company of this size, it is well to remember in comparing this item with published balance sheets that the amount of cash is being continuously augmented by profits from operation which are only periodically disbursed in dividends and interest, and then only in part.

The above method of computing working capital is believed to be fairly indicative of the necessary amount to operate this company. The ordinary method of considering excess of current assets over current liabilities may include periodic increases in cash as dividend and interest payment dates approach, or cash awaiting investment in plant extensions or bills or accounts receivable arising from business affiliations foreign to the business under regulation, any one of which would destroy the value of such a computation as an index.

It is not considered necessary to allow an amount for defraying the expense of plant extensions because in the physical valuation interest carrying charges have been allowed both on the original plant and additions since. Materials for repairs are carried in stores.

§ 1234. Nebraska Commission—Lincoln telephone plant.

Re Application of Lincoln Telephone and Telegraph Company for authority to increase rates⁷ involves the valuation of a telephone plant for rate purposes by the Nebraska State Railway Commission. The Commission holds that a working capital in the form of cash in bank and accounts receivable is essential to the conduct of a business of this character. The Commission says (at pages 144–145):

From studies made the Commission feels that an allowance of about \$109,000 for working capital, together with stores and

⁷ 19 A. T. & T. Co. Com. L. 134, June 26, 1913, Nebraska State Railway Commission.

supplies, for a company of this size would seem reasonably necessary; such allowance would be the equivalent of 6 per cent on the reproduction value.

The value used by the Commission includes only \$69,846.72 for stores and supplies, so that the total allowance for working capital is approximately \$39,000 short of the reasonable allowance above indicated.

§ 1235. New Jersey Commission—Public Service Gas Company case.

In *Re Rates of the Public Service Gas Company*⁸ the New Jersey Board of Public Utility Commissioners made an allowance of \$250,000 for working capital. The basis of the allowance is not stated. It includes materials and supplies. The total valuation in this case excluding working capital was \$4,500,000. For the year ending 1911 the operating expenses were \$493,000 and the gas sold amounted to 1,050,541M cubic feet.

§ 1236. New York Commission, Second District—Buffalo gas rate case.

In *Buffalo Gas Company v. City of Buffalo* the company⁹ asked the New York Public Service Commission for the Second District to fix a rate for gas supplied to the city of Buffalo. The company claimed an allowance of \$150,000 for working capital including materials and supplies on hand. The Commission refused this allowance on the ground that the company did not in fact possess a working capital as its quick assets did not exceed its floating debt. Existing materials and supplies could not be included as working capital, inasmuch as they were offset by bills payable and interest on such bills was being charged to operating expenses. Moreover, the Commis-

⁸ 1 N. J. B. P. U. C. 433, 15 A. T. & T. Co. Com. L. 354, December 26, 1912.

⁹ *Buffalo Gas Company v. City of Buffalo*, 3 P. S. C. 2d D. (N. Y.), 553, 23 A. T. & T. Co. Com. L. 244, February 4, 1913.

sion notes that the company has consumers' deposits to the amount of \$78,000, and that interest on such amount was charged to operating expenses. Chairman Stevens discusses this question as follows (at pages 621-623):

The company in its brief and in all of its calculations assumes that it has a working capital of \$150,000 upon which it is entitled to a return. It seems to be necessary to call attention to the fact that working capital consists of property of some kind owned and used by the company in its business which is not elsewhere inventoried and appraised, and that if it has not any such property there can be nothing in the nature of working capital which can be placed in the inventory and upon which a return can be based. This remark is necessary in view of the fact that the company's exhibit showing how it arrives at the sum of \$150,000 working capital concludes as follows:

"Amount required to bring net working capital up to \$150,000, \$110,510.65."

The witness called by the company in explanation of this exhibit says, among other things:

"In other words, I feel that we should have free as liquid capital to conduct this business not less than \$150,000, and if we do not have it, and we have not at the present time because we have exhausted it, as I will explain," etc.

He again says, at page 1063 of the evidence:

"We have used up practically all of our working capital."

This evidence would seem to dispose of the question of working capital without further discussion, but a few other facts should properly be considered in this connection. The exhibit placed in evidence by the company is too voluminous to quote in full at this place. It does, however, contain the following:

"Quick assets exceed floating debt \$39,489.35."

This would show that the company actually has practically \$40,000 of working capital, providing the statement is made on the correct basis and embodies correct figures. Also it contains an inventory of stock, materials and supplies on hand, showing that all are inventoried at the sum of \$71,743.95. Stock, materials, and supplies on hand clearly constitute working capital,

and might very well be treated as such in this connection but for the fact that upon the other side of the account the company has bills payable amounting to \$75,000, and it charges in its operating expenses the interest upon these bills payable at 6 per cent. It is clear that if this interest is allowed in operating expenses there can be no allowance for the stock, materials and supplies as working capital. If the latter are allowed as working capital, then the interest charged in operating expenses must be stricken out so that the matter is, as the witness says, "six of one and half a dozen of the other." It will be simpler to leave the interest in operating expenses, and therefore the stock, materials, and supplies can not be treated as working capital. The exhibit is not made up, however, on the correct basis. The quick assets exceed the floating debt by \$39,489.35, and this is assumed to be working capital. The assets, however, contain the following:

"Treasury bonds covering plant paid for from working capital, \$95,000 par value. Market price, 64: \$60,800."

The treasury bonds are the bonds of the company which have never been issued and hence are not an asset at all. The statement shows clearly that they are placed in the exhibit representing "plant paid for from working capital," and hence the amount is necessarily included in some other place in property which is inventoried and allowed for. This of course is a fundamental error, since nothing should appear in working capital which is inventoried elsewhere. As a conclusion from this, the quick assets do not exceed floating debt, but are less by some \$21,000.

The statement is also faulty in principle in other respects, but it is unnecessary to go into it, since the company has entirely failed to show any working capital in use except stock, materials and supplies which are hereinbefore discussed.

In this connection it should be observed that the balance sheet of the company for the year ended December 31, 1911, discloses that it then had consumers' deposits to the amount of \$78,390.57. This is not held separate and apart as a trust fund, but is represented somewhere in its floating capital, so that very clearly it has a working capital to the amount of these deposits.

It is true that it is liable for interest upon these deposits, but that interest when paid is necessarily charged to operating expenses, so that to all practical intents and purposes it has this amount of working capital on hand.

§ 1237. Wisconsin Commission.

Meyer et al. *v.* Sheboygan Gas Light Company ¹⁰ involves a valuation of a gas plant for rate purposes by the Wisconsin Railroad Commission. In this case to aid in estimating the allowance for working capital the Commission takes 10 per cent and 15 per cent of the gross earnings for the last three years. As an additional aid it finds the difference between the current assets and liabilities for the same three years. Under current assets are included (1) cash; (2) accounts receivable; (3) materials and supplies, and (4) miscellaneous prepaid accounts. Under current liabilities are included (1) notes and bills payable; (2) accounts payable; (3) consumers' deposits; (4) accrued insurance, and (5) accrued taxes. For the last year 10 per cent of the gross earnings amounted to \$7,200 and 15 per cent of the gross earnings to \$10,800. For the same year the difference between current assets and current liabilities amounted to \$14,300. Materials and supplies on hand were appraised at \$10,491. By comparing this amount with the ratio of materials and supplies to total assets for other companies of the same class, it seemed to the Commission that the amount of materials and supplies was unnecessarily large. The Commission accordingly in determining fair value does not include an allowance for cash capital in excess of the amount of materials and supplies. The Commission says (at pages 447-448, 459):

The value of materials and supplies found by the engineers June 30, 1911, is \$10,491. This amount is included in the total cost of reproduction of \$301,386. Analysis of the relation of the

¹⁰ 9 W. R. C. R. 439, July 11, 1912.

value of materials and supplies to the total assets of class A utilities reveals that an allowance of \$8,000 would be ample on this basis for the respondent's business. Tested by the amount of business transacted, the necessary allowance would be even less. . . .

It appears, on the whole, that the value of materials and supplies, as it appears in the engineers' valuation, is somewhat more than would ordinarily be necessary, that the difference between the current assets and liabilities is unusually high, and that therefore the additional cash capital that should be added to the value of the property is somewhat less than the reports of the utility would indicate are necessary for its business. . . .

For the purpose of this determination no allowance is made at this time for cash capital, as the value of materials and supplies included in the cost-of-reproduction-new upon which the value of plant and business is based is not very far from what would ordinarily be required for working capital for a gas utility of this size.

This case is of particular importance in the use that is made of the comparative method to check and correct the estimate indicated by the accounts of the company concerned.

On a rehearing of this case the Commission modified its determination as follows (at page 313): ¹¹

The respondent asserts that \$10,000 in cash is necessary for working capital in addition to material and supplies. It supports this contention by showing that the amount of coke and the stock of appliances were greater during the summer months, when the inventory was taken, than they ordinarily are for the remainder of the year; and that accounts receivable were unusually swollen by current consumer accounts, which reach a maximum at the first of the month. These arguments, alone, hardly substantiate the claims that a large working capital is required, for, if these items are normally less, the average

¹¹ Meyer v. Sheboygan Gas Light Company, 12 W. R. C. R. 309, decision on rehearing January 15, 1913.

amount required for working capital may be expected to be correspondingly smaller.

While the utility requires sufficient available cash capital to enable it to meet its current obligations, this need is not uniform, but is greatest when many accounts payable are due; it is least when they are entirely paid. The addition of the entire inventory value of material and supplies to the respondent's investment is equivalent to adding cash capital to the extent that the corresponding accounts are unpaid.

Various comparisons of the business of this and other utilities indicated that the investment necessary for material and supplies was considerably less than the inventory revealed. It was concluded, therefore, that very little additional cash should be allowed. But further consideration of respondent's unusual need of increasing its gas sales in every practicable way convinces us that considerable investment in gas appliances is not unwarrantable in this case. For this reason, it is believed that respondent's working capital, including material and supplies, may properly be about \$15,000.

In *Superior Commercial Club v. Superior Water, Light and Power Co.*¹² the Wisconsin Railroad Commission discusses the question of working capital as follows (at pages 745-747):

It appears clear that stores and supplies, and cash in sufficient amounts to insure economical and safe operation of the plants, are proper items to be included in the working capital. This, in a sense, might also be true of bills receivable, except in such cases where they are offset by bills payable.

Different methods of estimating the amount required for working capital were discussed in *State Journal Ptg. Company v. Madison G. & El. Co.* 1910, 4 W. R. C. R. 501, 552, and *City of Milwaukee v. T. M. E. R. & L. Co.* 1912, 11 W. R. C. R. 1, 157. In applying these methods it is necessary to observe closely the nature of the business and local conditions in Superior, in order to clearly understand the situation with respect

¹² 11 W. R. C. R. 704, November 13, 1912.

to the amount of working capital required. The company collects its revenue monthly in all three departments and receives the bulk of these earnings before it is obliged to settle with the two companies from which it obtains the gas and electric energy. All of its outlays in connection with producing, delivering and selling its products, except taxes, depreciation, interest and profits, are thus made after the monthly collections are received.

An examination of the monthly earnings statements submitted to the Commission for the nine months extending from July 1, 1911, to March 31, 1912, indicates that the average net income per month for the year ending June 30, 1912, will be about \$5,800 for the water, \$2,100 for the gas, and \$6,270 for the electric plant, or a total of \$14,170 for the three departments. The monthly depreciation reserve amounts to about \$3,333. Assuming an average interest charge of $7\frac{1}{2}$ per cent on the present value of the physical property amounts to about \$8,430 per month. Deducting these items from the total net income leaves a balance of approximately \$2,400 per month. Adding to this \$2,400 the consumers' deposits for a surety reserve amounting to about \$6,600, which remains about stationary during the year, gives the company each month over and above their entire expenses approximately \$9,000. The receipts, taken as a whole, are greater than that part of the expenses which, when considered together, it would be of any advantage to the plants to pay as often as once a month.

The significance of these facts is readily seen. They show that the company is in a position to meet substantially all of its current outlays from its current receipts, thus being practically on a cash basis. They show that the conditions under which the company is operating are such that a close relation exists between the collection of its receipts and the payment of its expenses. A uniform adjustment of the one to the other ought to be little trouble, due to this close relation. . . .

Upon considering the facts brought out, it appears that \$60,946.41 in addition to the appraisal of materials and supplies is a greater amount for working capital than that which is required for operating the plants and properly conducting the

business as a whole. It appears that a working capital of 10 per cent of the amount derived from the gross sales of water, gas and current, or from \$25,000 to \$30,000 in addition to the amount already invested in materials and supplies, is fully adequate under present conditions.

The case of *City of Milwaukee v. The Milwaukee Electric Railway and Light Company*¹³ involves the valuation of a street railway for rate purposes. The Commission issued an order slightly reducing the existing rates of charge. As regards the different requirements as to working capital of an electric railway as compared with a water, gas or telephone utility, the Commission says (at page 157):

The electric railway is unlike the water, gas and telephone utility, in that it has no monthly bills, but receives a large portion of its transportation revenues daily. The electric railway also has the advantage of selling a part of its transportation service in advance in the form of blocks of tickets or mileage books. The money so received is at the company's disposal as working capital prior to the time when it is necessary for current expenses.

¹³ 11 W. R. C. R. 1, 14 A. T. & T. Co. Com. L. 197, August 23, 1912.

CHAPTER XV

Piecemeal Construction

§ 1250. New York Commission, Second District.

1251. Railway and Canal Commission of Great Britain—Piecemeal construction and separate establishment.

§ 1250. New York Commission, Second District.

*Fuhrmann v. Cataract Power and Conduit Company*¹ is a case involving the valuation of property of an electric company for rate purposes. Chairman Stevens in delivering the opinion of the Commission speaks of piecemeal construction as follows (at pages 687–688):

The first objection to the cost-of-reproduction-new in this case is that it is based upon an assumed state of affairs which did not obtain in the actual construction of the plant. This assumption is that the plant is to be constructed as an entirety within the briefest possible period. It is not considered as a growth from a simple beginning, but as evolved from the plans of engineers covering the whole system, and the construction proceeding with all reasonable dispatch so that the plant is brought into existence and put in service at one time. It assumes practically that the whole plant is ready for service before any business is secured. This assumption does not correspond with the real facts of the case. The company was organized in 1896. As late as the close of 1900 we find that the money investment was only about \$500,000. In 1908 the investment had risen to about \$1,500,000, and at the close of 1911 it had gone up to nearly \$1,900,000. Extensions were built, generally speaking, for serving business which was ready to be served. An extension of the distributing system would be made to reach

¹ 3 P. S. C. 2d D. (N. Y.) 656, 18 A. T. & T. Co. Com. L. 1015, April 2, 1913.

a particular industry or business, and as soon as completed the load would be taken on. The engineering has largely been done by engineers in the regular employment of the company at a cost very much less than the percentage assumed by the company's witnesses; and as is shown by the books, large portions of the sums required as theoretical overhead expenses have never been paid.

Again, the large sum of \$256,439 is added by the respondent to the costs because of piecemeal construction. In other words, the theory is that the plant could have been constructed upon the assumption just stated for the sum of about \$3,000,000, but having actually been constructed by piecemeal, \$250,000 should be added to that sum by reason of the extra expense incurred.

It must be confessed that this addition for piecemeal construction has logical difficulties which, however, need not be discussed for the reason that the books of the company demonstrate that the piecemeal construction which actually took place was much cheaper than the construction upon which the calculations of the company's witnesses are based.

**§ 1251. Railway and Canal Commission of Great Britain—
Piecemeal construction and separate establishment.**

National Telephone Co., Ltd., *v.* His Majesty's Postmaster-General² involves the determination by the Railway and Canal Commission of Great Britain of the value of the property of the National Telephone Company upon its transfer to the Postmaster-General at the expiration of the company's license on December 31, 1911. Under the purchase agreement between the parties dated August 8, 1905, the purchase price was to be based substantially upon the reproduction cost of the physical property less depreciation.

In this case the company's calculations of overhead percentages were based on estimates of actual expenditures

² 16 A. T. & T. Co. Com. L. 491, January 13, 1913.

of the company in carrying on its construction work. The company claimed that by the combination of a construction business with an operating business certain economies accrued. Accordingly the company claimed an addition of a certain percentage to cover the additional cost that a separate establishment for construction purposes would have entailed. The court held, however, that in view of the fact that the company's estimates of actual cost were based on construction under the piecemeal method and in view of the fact that the plan adopted for determining purchase price assumed the replacement of the entire plant as a whole and not upon a piecemeal plan, the probable extra cost arising from piecemeal construction might well be taken as an offset against the claim for a separate establishment. Sir James Woodhouse in delivering his judgment discusses this question as follows (at page 535):

In calculating their percentages the company included a sum for what they called separate establishment charges. This was to represent, as I understand, economies which they considered accrued to the advantage of the construction account from the fact that, as Mr. Gill pointed out, the company was practically combining two businesses, a large construction business and a large operating business, and, in respect of stores, men's wages, and in other details, money was thereby, he believed, saved which a constructor not so circumstanced would have to incur. I share the view, that any economy accruing in this way was fairly balanced by the extra cost which, undoubtedly, would arise from the piecemeal method of construction involved in the company's calculations of cost, and which formed the subject of so much criticism on the part of the Solicitor-General. I therefore exclude any such claim from our calculations of costs.

CHAPTER XVI

Adaptation and Solidification

§ 1260. Federal Court—Alabama and South Dakota railroad rate cases—Solidification.

1261. California Commission—Solidification of roadbed.

1262. New Jersey railroad appraisal for tax purposes.

1260. Federal Court—Alabama and South Dakota railroad rate cases—Solidification.

In the South and North Alabama Railroad Rate Case,¹ Special Master W. A. Gunter allowed 15 per cent on the cost of grading for solidification, and in the Louisville and Nashville Railroad Rate Case he allowed 25 per cent for this purpose. In the latter case he says (at page 85):

The defendants object that the item of \$2,500 per mile for “seasoning” or settling of the embankment to bring it to the solidity of an old road and 25 per cent of the cost of grading for surfacing and resurfacing overlap each other to some extent and are also too high in price. I think the proof shows the justness of this claim, and to rectify the same, I reduce the item of seasoning 50 per cent by deducting from the totals of complainant for each year the sum of \$542,010.27.

Chicago and Northwestern Railway Company *v.* Smith ² involves the constitutionality of passenger rates fixed by the South Dakota Railroad Commission and by the legis-

¹ South and North Alabama Railroad Company *v.* Railroad Commission of Alabama, United States Circuit Court, Middle District of Alabama, Report of William A. Gunter, Special Master in Chancery, 1911. Louisville and Nashville Railroad Company *v.* Railroad Commission of Alabama, same court and Special Master as above, 1911.

² 210 Fed. 632, January 20, 1914.

lature. A two-cent per mile rate fixed by the legislature was found to be unconstitutional, but the 2½-cent rate fixed by the Railroad Commission was sustained. The master in this case refused to include an allowance for adaptation and solidification of roadbed, and this ruling is sustained by the District Court. No allowance was included for going value. District Judge Willard says (at page 636):

Although the master in this case made his report after the master's report and the Circuit Court opinion in the Minnesota Rate Cases had been filed, but before the decision of the Supreme Court therein, he did not fall into one error which that decision pointed out. The company in this case claimed an allowance for adaptation and solidification of roadbed. It added therefore to its estimate of the cost of reproduction of the roadbed on the ground of adaptation and solidification, about 2 cents per cubic yard as the price for doing that work, which would be about 7 per cent of the total estimate of that cost on the lines west of the river, and about 7½ per cent on that east of the river. The state's witnesses allowed nothing on account of this item. (Witt, pp. 1994, 2254-2284.) The master accepted the state's claims in that respect, and allowed the company nothing for adaptation and solidification, deducted from the cost of reproduction new, namely \$26,311,400, depreciation, and adopted, as has been said, the sum of \$22,598,602. This amount does not include any sum allowed as an element of value because the railroad was a going concern. (Witt, p. 2263.)

§ 1261. California Commission—Solidification of roadbed.

Valuation of Tonopah and Tidewater Railroad Company³ is a proceeding on the motion of the California Railroad Commission to ascertain various elements entering into the value of the company's property. Findings were made as to facts, but not on the question of the

³ 3 Cal. R. C. —, 22 A. T. & T. Co. Com. L. 1064, July 29, 1913.

value of the property irrespective of the purposes for which the value may be used. In its finding of fact in regard to present value of the grading, the Commission included an allowance of 8 per cent for appreciation. The Commission says (at page 1078):

The engineering department originally allowed no appreciation for grading, while the railroad company claimed 20 per cent appreciation. Whether appreciation should be allowed depended upon questions of fact as to which a dispute existed between the engineer of the railroad company and members of the engineering department of the Commission. The engineers for the engineering department contended that portions of the roadway had been blown and washed away, while the engineer for the railroad company contended that there was actually more material in the roadbed than shown on the original profile. The reinspection of the roadbed has satisfied me that the roadbed is maintained in first-class condition and that an allowance of 8 per cent should be made for appreciation.

§ 1262. New Jersey railroad appraisal for tax purposes.

Charles Hansel in his report on revaluation of railroads of New Jersey for tax purposes, made in 1911, discusses the treatment of solidification of roadbed as follows (at page 163): ⁴

The solidification of roadbed, by reason of settlement through age and use, has not been taken as an element of value for the purpose of this report. It is manifest that a given piece of roadbed which has stood under traffic and the elements has been molded to a more solid mass than the original construction could produce, and this solidification has added a considerable value, which could only be acquired by the lapse of time.

In the construction of an embankment the engineer requires the contractor to use every reasonable means of tamping and solidifying, so as to secure as stable a roadbed as possible, and

⁴ Report on revaluation of railroads and canals, New Jersey, 1911, by Charles Hansel, Expert in Charge.

any failure to do this is reflected in the increased expense of maintenance, due to settlement, the disappearance of ballast, etc.

In addition to this element of solidification, the quantities which would be found in an embankment of considerable elevation would not indicate the actual quantities placed there during construction, for the reason that, in many cases, fully 10 per cent of the total area showing above the surface has settled below the natural surface by pressure of the mass, and, in cases where the natural ground is unstable, a much larger amount of material has disappeared.

This solidification and settlement of roadbed has been an element of cost and must be provided for. The railroad company is entitled to claim this cost as a part of their investment. We have no means of determining the amount of solidification or settlement, even approximately, and have not, therefore, attempted to fix any definite unit of values for same.

CHAPTER XVII

Physical Depreciation

§ 1270. Straight-line *v.* Sinking-fund method.

1271. Depreciation of overhead charges.

§ 1270. Straight-line *v.* Sinking-fund method.

National Telephone Co., Ltd., *v.* His Majesty's Postmaster-General¹ involves the determination by the Railway and Canal Commission of Great Britain of the value of the property of the National Telephone Company upon its transfer to the Postmaster-General at the expiration of the company's license on December 31, 1911. Under the purchase agreement between the parties dated August 8, 1905, the purchase price was to be based substantially upon the reproduction cost of the physical property less depreciation. In this case the relative merits of the straight-line and sinking-fund methods of computing accrued depreciation for purposes of determining a fair purchase price received extended consideration. The Postmaster-General contended that the straight-line method should be applied, while the company urged the adoption of the sinking-fund method. The court approved the straight-line method, holding that the sinking-fund method was wholly inapplicable to a case between buyer and seller inasmuch as it was based upon speculative assumptions as to future life and income of the plant and for the further reason that the value of the plant ascertained by this method would be much greater in the earlier years of its life than in the later years by reason of the

¹ 16 A. T. & T. Co. Com. L. 491, January 13, 1913.

increasing growth of the fund. Justice A. T. Lawrence in delivering the judgment of the court discusses this question as follows (at pages 509–510):

I come now to deal with the question of depreciation. It is admitted that the figure for construction cost has to be depreciated in view of the fact that the plant was not new at the moment of transfer, but was of varying ages. Two methods of depreciation have been put before us and two different ways of regarding the life of plant. The two methods have been described as the sinking-fund method, which has been put forward by the company, and the straight-line method, which has been put forward by the Postmaster-General.

The sinking-fund method is based upon the effect of compound interest; it takes the life of the plant and then ascertains the sum which, paid into a sinking-fund at compound interest, would replace the cost at the end of the life, and it is suggested that if the amount in the sinking fund in any year of the life be deducted from the cost of the plant, the remainder will give you the value of the plant at that moment.

I do not go into the rate of interest; it seems to be unnecessary for my purpose; it is evident that, whatever the rate of interest, the value of plant ascertained by this method will be much greater in the earlier years of its life than in the later years by reason of the increasing rate of growth of the fund due to the fact that it is accumulating at compound interest. This method may be, and I think is, a proper method to adopt in a going concern, especially where revenue is largely used for capital purposes. In such a case it may be perfectly legitimate, in estimating the value of plant before deciding whether to scrap it and substitute newer or more powerful plant, to adopt this method of calculation in order to see whether it is economical, or even profitable, to scrap the old plant. This seems to me to be a purely revenue question and to have nothing to do directly with the value of the plant as between a vendor and a vendee. It was admitted by the very eminent witnesses called for the company upon this point that this method had never, in their experience, been applied as between a buyer and a seller. I

admit this method will give you a perfectly correct arithmetical result, but it does not take into consideration those matters which properly affect the mind of a buyer. The prudent buyer discounts every risk. The past has happened and is certain; the future is not. It is true that we have no cautious buyer to deal with here, but we have no right to take chances that he would not. We can no more look into the future and determine its events by arithmetic than he could. It may have a thousand vicissitudes beyond our ken, and we are bound to have regard to the fact that we are engaged in a valuation between a buyer and a seller. I come to the conclusion, therefore, that the Postmaster-General's method of depreciation, which is the ordinary or straight-line method, is that which should be applied. In this method the value is reduced in the ratio which the age bears to the life of the plant.

Sir James Woodhouse in a supplemental opinion comes to the same conclusions (at pages 538-539):

The next important point is by what method is the value to be calculated. Is it by the "sinking-fund" method on the basis of compound interest as contended for by the company, or are we to adopt what is known as the "straight-line" method in which the value is reduced in the ratio which age bears to the life of the plant, which is the basis of the Post Office. I have no hesitation in adopting the latter. The former seems to me wholly inapplicable to a case between a buyer and a seller, and not one of the company's experienced witnesses had ever known it so applied in any case of sale of a commercial undertaking. The elements of constancy and certainty both as to period and income which are essential to the proper application of the sinking-fund method are non-existent in the case under consideration. It may, no doubt, be right as applied to the case of an annuity or the valuation of a leasehold interest, but to apply a sinking fund to depreciate plant in a commercial undertaking involves too great an element of speculation, and would operate, if a miscalculation were made as to length of life, very unjustly in practice. No doubt it is true that the straight-line

method also is not free from some element of risk, but there is this difference, so well exemplified by Sir William Peat, that by that method both parties would lose the same or gain the same.

*Fuhrmann v. Cataract Power and Conduit Company*² is a case involving a valuation for rate purposes by the New York Public Service Commission for the Second District. Chairman Stevens in delivering the opinion of the Commission discusses depreciation methods at considerable length. He concludes that either the sinking-fund method or the straight-line method may be properly applied, depending on the particular case. He states that the manner in which depreciation has been treated by the particular company in the past is always of great importance and that it is impossible in a rate case equitably to adjust the matter of depreciation without considering whether the company has in the past used the sinking-fund method or the straight-line method. He states that (at pages 720-721): "If it has been handled in the past upon the straight-line method, a change to the sinking-fund method would obviously be unjust to the public and give greater returns to the company than it is entitled to, because an essential element of the sinking-fund theory is that the company gets no benefit from the sinking fund until the end of the term, and therefore the return upon capital must be continued upon the full amount of the investment until the term of life of the property has expired." In the case at hand the Commission found that the company had been charging off depreciation substantially on the sinking-fund method, and accordingly the Commission adopted this method in estimating the future annual allowance for depreciation.

² *Fuhrmann v. Cataract Power and Conduit Company*, 3 P. S. C. 2d D. (N. Y.) 656, 18 A. T. & T. Co. Com. L. 1015, April 2, 1913.

§ 1271. Depreciation of overhead charges.

In 1913 an investigation and report on the rates charged by the Commonwealth Edison Company was made to the City Council of Chicago by Ray Palmer, City Electrician, and John E. Traeger, City Comptroller. The report fixes the fair value of the property of the company and recommends a reduction in existing rates of charge. In estimating accrued depreciation all overhead charges were depreciated in the same ratio as the physical property. Upon this subject the report says (at page 37):³

In estimating depreciation Byllesby did not depreciate the overhead costs except engineering and insurance charges. As in practically every case when portions of the plant have depreciated to a point where they should be renewed, they have become inadequate or obsolete and are not reconstructed along the old lines, and overhead charges for engineering, insurance, taxes and interest during construction and contingencies must be added to the cost of new construction. This being the case, when the property as appraised is superseded, the greater part of the overhead cost would remain on the books, resulting in the addition of fictitious capital values if this method is employed.

In passing on an application for a transfer of the property of the Berlin Electric Light Company⁴ the New Hampshire Public Service Commission bases its determination chiefly on the fair value of the property for rate purposes. The Commission held that all overhead cost should be treated as depreciable property in estimating the accrued depreciation. The Commission says (at page 193):

³ Report to the Committee on Gas, Oil and Electric Light of the Chicago City Council on the investigation of the Commonwealth Edison Company, by Ray Palmer, City Electrician, and John E. Traeger, City Comptroller, May 14, 1913.

⁴ 3 N. H. P. S. C. R. 174, 21 A. T. & T. Co. Com. L. 781, August 30, 1913.

So far as items for overhead cost are allowable at all, they are allowable as a part of the cost of producing physical properties ready for use. Reproduction would entail the same expenditures again. That they should be subject to depreciation does not seem to require argument.

The report by Arnold and Moyes on the valuation of the Toronto street railways was prepared in accordance with a resolution adopted by the Toronto City Council, and was intended to form the basis for municipal purchase. The report discusses the depreciation of overhead charges as follows (at page 19):⁵

The present value of the physical property has been determined by depreciating the cost-to-reproduce-new of all the various items of property contained in the various divisions. Varying rates of depreciation have been applied to various classes of physical property, and the present value has been determined by a consideration of the life of the property and its salvage value, such consideration having been given to all items of the property that are now considered as depreciable. Certain exhibits, such as the land value of real estate and stores, have not been depreciated, but the present value of these items has been considered the same as the cost-new value. The present value of the amount allowed as the cost of securing money has been obtained by depreciating its original value in the same ratio as the elapsed life of the franchise right at the date of the inventory bears to the entire term of the franchise. Legal expenses, carrying charges and incidentals have not been depreciated, since when any rehabilitation of the property takes place this would be done without incurring any carrying charges or legal expenses, as such expenses incurred in connection with renewals would be charged to operation.

⁵ Report on the Toronto Railway Company and portions of the Toronto and York Radial Railway and the Toronto Suburban Railway Company situated within the city limits, by Bion J. Arnold and John W. Moyes, September 20, 1913.

CHAPTER XVIII

Cost-new v. Cost-less-depreciation

- § 1280. Objection to deduction of accrued depreciation.
- 1281. Assuming straight-line method, depreciation should be deducted.
- 1282. Objection that no depreciation reserve is needed to offset normal depreciation.
- 1832. Cost-less-depreciation constitutes the total capital contributed by the security holders.
- 1284. Uniform annual-investment-cost method.
- 1285. Comparison of four methods of determining annual and accrued depreciation.
- 1286. Application to heretofore unregulated utility.
- 1287. Distinction between accrued depreciation and operating efficiency.
- 1288. Hayes on deduction of accrued depreciation.

DECISIONS RELATIVE TO ACCRUED DEPRECIATION

- 1289. United States Supreme Court in Minnesota Rate Cases.
- 1290. Federal Court.
- 1291. Arizona Commission.
- 1292. California Commission.
- 1293. Chicago telephone appraisal.
- 1294. Railway and Canal Commission of Great Britain—Reduction of estimated life on account of future functional depreciation.
- 1295. Maryland Commission.
- 1296. New Hampshire Commission.
- 1297. New Jersey Commission—Distinction between actual and theoretical depreciation.
- 1298. New York Appellate Division in Kings County Lighting Case.
- 1299. New York Commission, Second District.
- 1300. St. Louis Commission—Accrued depreciation should not be deducted.
- 1301. Washington Commission.
- 1302. Wisconsin Commission—Depreciation reserve.

§ 1280. Objection to deduction of accrued depreciation.

The Supreme Court of the United States in *Knoxville v. Water Company*,¹ decided January 4, 1909, and in the

¹ 212 U. S. 1, 29 Sup. Ct. 148, 53 L. Ed. 371 (abstracted above, § 431).

Minnesota Rate Cases,² decided June 9, 1913, has laid down in unequivocal terms the principle that there shall be a deduction from cost-new on account of accrued deterioration due to wear and age. W. H. Winslow called attention to what he considered the fallacy of the Knoxville decision in a communication to the *Electrical World*, February 25, 1909, page 509. Mr. Winslow argues that while purchase value is affected by age and wear, rental value in the absence of decreased efficiency is not. He states that the decision is on a par with a rule that the wages of a servant should be diminished as his age increases unless he has been able to lay aside adequate provision for old age, even though age has not diminished the quality or the amount of the work he performs. He sums up his argument as follows:

I believe that failure to recognize the difference between sale and rental values, in public utility cases, has been due to the false assumption that the purchaser at depreciated prices would need to consider only such prices in fixing rates of return, and that, therefore, there was no justice in allowing the owners to charge rates based on larger sums. This assumption fails to take into account the fact that the sum which must be accumulated for rebuilding is not the depreciated cost paid, but the original cost; and that, therefore, to escape loss, such a purchaser must either do one of two things: First, at once place in a depreciation fund the difference between the price paid and the cost-of-reproduction-new; or second, collect each year, in addition to the current depreciation, a further sum which will make up the past depreciation during the remaining life of the plant. In either case, in order to obtain the same net earnings, the rates charged must be equal to those charged on a new plant.

Mr. Winslow's argument evidently assumes the sinking-fund method of estimating the accrued depreciation and the annual allowance for depreciation. It is clear that

² 230 U. S. 352 (abstracted *infra*, § 1289).

if moneys in the depreciation reserve are assumed to accumulate at compound interest, the annual payment into the fund can not be considered an amortization of the investment. It does not return to the investor the money that he has put into the business. It earns not for the shareholder but for the depreciation fund. Under this theory, therefore, unless a company is allowed a return on cost-new, a certain portion of its property would seem to be confiscated for the benefit of the public. But under the sinking-fund theory, even if there is no fund in existence and the annual allowance that should have gone to the depreciation fund has actually been paid out in dividends, such amounts may possibly be considered not as a return of capital to the shareholder but as payments that the shareholder holds in trust and must return with compound interest whenever they are needed for renewals or replacements.

§ 1281. Assuming straight-line method, depreciation should be deducted.

Some authorities agree for the most part to the validity of the above reasoning assuming the sinking-fund method, but deny that the sinking-fund method is a proper one to use for the purpose. Assuming the straight-line method of computing the accrued depreciation and the annual depreciation allowance, certain of the above difficulties are eliminated. Under this method it is not true that the investor will be compelled to accept a return on a smaller amount than he has actually invested without being reimbursed for such reduction in the amount of his principal. The straight-line method does not assume a payment in part, but a payment in full. It is not a payment that is assumed to accumulate at compound interest, but it is a payment that is assumed to cover the full amount of such depreciation. It may be invested in the business,

thus reducing the amount that will need to be secured through the issue of stocks and bonds, or it may be returned to the shareholders and thus result in an actual or constructive reduction of the capital invested. Let us assume a plant starting with an actual total capital investment of \$1,000,000. This amount has covered the cost of land, structures and equipment including promotion expenses and overhead charges and the necessary allowance for working capital. Assume that the annual depreciation on the depreciable property is estimated at $1\frac{1}{2}$ per cent on the total capital (\$1,000,000). This estimate, we will assume, has been based on the probable efficient life and scrap value of the depreciable parts and verified by the actual experience of a long-established plant of similar character. If $1\frac{1}{2}$ per cent on \$1,000,000, or \$15,000, is carried from revenue to depreciation reserve each year, this reserve will be adequate to provide for renewals as they occur and in addition there will always be enough left to the credit of the depreciation reserve to make up the difference between the capital cost and the capital-cost-less-depreciation. Let us assume now that at the expiration of 20 years the amount in the depreciation reserve is \$150,000, or 15 per cent of the capital cost. If the allowance of $1\frac{1}{2}$ per cent for depreciation was in fact a correct measure of the depreciation throughout this 20-year period, this \$150,000 will exactly represent the difference between the original capital cost and the original capital-cost-less-depreciation. If a business is experiencing a normal growth, the most natural and profitable use that can be made of a depreciation reserve is to retain it in the business to meet the additional capital requirements for plant and working capital. We may assume, therefore, that this \$150,000 will be invested in the business as additional capital outlay so that now the cost-new of the entire property is

not \$1,000,000 but \$1,150,000. Of this amount \$1,000,000 has been contributed by the shareholders and bondholders and the other \$150,000 represents the depreciation reserve which is really the contribution of the consumers. If now in a rate regulation proceeding the rate of return is based on \$1,000,000, the investor will receive a return based on the full amount of all the capital he has ever contributed to the enterprise. This \$1,000,000 is not cost-new but cost-less-depreciation. The depreciation amounts to \$150,000 and the cost-new is \$1,150,000. It seems clear that in this case 'cost-less-depreciation rather than cost-new is the fair value upon which the rate of return should be based.

§ 1282. Objection that no depreciation reserve is needed to offset normal depreciation.

James E. Allison, Commissioner and Chief Engineer of the St. Louis Public Service Commission, in a valuable contribution to the study of this subject,³ states that under certain conditions the accrued depreciation should not be deducted to obtain fair value. He apparently approves the straight-line method of fixing the annual allowance for depreciation. He states that "after depreciation charges have been established by legal regulation and are paid by the consumer, then for the future any accumulation which is or should be in the depreciation fund as a result of these charges is a repayment of investment by the consumer and should be deducted from gross value to determine the just amount upon which to base reasonable returns." But he states that it is not necessary that a company should have a depreciation fund equal to the amount of accrued depreciation indicated

³ James E. Allison, "Should public service properties be depreciated to obtain fair value in rate or regulation cases?" Printed as Appendix A to the Report of St. Louis Public Service Commission on the United Railways Company of St. Louis, September 11, 1912, pages 73-121.

by the straight-line method. In large properties there is an approximately constant normal wear. The property is never brought back to new condition and there will consequently always be a constant theoretical depreciation that will not need to be offset by a depreciation reserve. He concludes (at page 99):

In a case of a heretofore unregulated property it can not be shown that the company should have set aside depreciation charges to accumulate a fund equal to the theoretical depreciation, for such a fund would be needless. . . .

The conclusion seems clear, then, that in all ordinary cases of heretofore unregulated properties we can not justly depreciate to obtain fair value unless we admit the justice of ex post facto laws or equivalent regulation, or unless we interpret fair value to mean market value and not just amount.

§ 1283. Cost-less-depreciation constitutes the total capital contributed by the security holders.

Depreciation is a problem in cost accounting. It is concerned with the allocation to each year's operating accounts of the waste in the instruments of production attributable to the year's operations. The cost of materials purchased and entirely consumed in the course of the year's operations are invariably included in ordinary operating expenses. The capital required to purchase and carry such materials during the turnover period is a part of the working capital. But some materials or instruments of production are not used up during the first year, but have a life of 3, 10, 20, 50 or 100 years. They are consumed in operation just as surely as the former and constitute just as real a part of the cost of production. Their cost (exclusive of scrap value) must, however, be distributed over the full life period. The capital required to purchase and carry these long-lived consumable materials may also be considered a part of the working capital.

It is this element of interest on capital that so greatly complicates the depreciation problem.

Cost-less-depreciation properly determined constitutes the real total *working* capital of the enterprise. It is the amount that under proper financial management the owners contribute to the enterprise. The depreciation reserve is, properly speaking, the contribution of the consumer and it directly reduces the amount of working capital that the owners must contribute to carry on the enterprise. Working capital in the narrow sense may be defined as the cost of stores and supplies on hand plus sufficient additional funds to bridge the gap between outlay and reimbursement. Working capital is not the full cost of labor, materials and supplies throughout the year, but a balance of current outlay over reimbursement. Similarly, the *total working capital* of the physical plant may be conceived as the balance of outlay for plant over reimbursement through the depreciation reserve. It is cost-less-depreciation.

§ 1284. Uniform annual-investment-cost method.⁴

Depreciation is concerned with the maintenance of the integrity of the investment in depreciable property at a uniform annual cost. Such costs can not be determined without some reference to interest on reserves and investment. The entire problem therefore may be simplified by considering depreciation as the adjustment necessary to secure a uniform investment cost. The supply of a public service must be considered a continuous process. Management or ownership may change, but the plant and the service and the depreciation process are assumed

⁴ The following sections are a development of the treatment of this subject contained above, §§ 401, 421-422, and are substantially a reprint of an article by the author entitled "Depreciation and Public Service Regulation," published in the *Engineering News* May 8, 1913, pp. 942-947.

to go on forever. The annual investment cost includes not only interest but also the repairs, renewals and replacements necessary to keep the property permanently in good working condition. The rights of the consumers using the supply at different periods demand that the annual charges attributed directly to the investment shall be as uniform as possible.

Disregarding for simplicity the element due to a possible fluctuation of the cost of repairs, the above standard requires that the charge for interest plus depreciation per \$1 of investment or cost-new shall be uniform. Cost-new is the factor that determines the capacity for production. If the percentage charge for interest plus depreciation per \$1 of cost-new is made uniform, this part of the cost of production is most appropriately treated. Generally speaking, it seems fair that for each unit of total capacity there should be a uniform charge for interest and depreciation throughout the entire life of the utility. It may of course be urged that the aim should be not a uniform cost per unit of capacity or investment but a uniform cost per unit of product. This might have advantages but is impossible of practical application. Depreciation is an operating expense and like every other operating expense must be allocated to the year in which it actually accrues. It is true that a certain equalization of the per unit cost of output may be brought about through some method of capitalizing or reimbursing the cost of establishing the business. This, however, should be through an entirely distinct accounting process. Correct accounting requires that all operating expense including depreciation should be correctly stated in each year's accounts. There is one way, however, in which output may have a very direct bearing on depreciation. The life of a car wheel is properly measured in car miles rather than in years. The annual depreciation therefore

depends on the number of car miles run. With the development of a railway's traffic the annual depreciation on car wheels increases. This is also true of other items such as rails. It is not true in any great measure, however, of a large proportion of the depreciable property of a public utility. Wear is substantially constant, or use and chance are controlling in fixing the probable life.

§ 1285. Comparison of four methods of determining annual and accrued depreciation.

As a problem in cost accounting the accrued depreciation and the annual allowance for depreciation are interdependent. Our theory in regard to an annual allowance for depreciation will necessarily control that in relation to the amount of accrued depreciation and vice versa. The amount of the accrued depreciation depends on the method adopted for computing the annual payment to the depreciation reserve. If the straight-line method is used, the accrued depreciation will be greater, as will also the annual payment out of revenue to the depreciation reserve. If the sinking-fund method is used, the accrued depreciation will be smaller, as will also the annual allowance for depreciation.

In the following the chief methods of allowing for annual depreciation and of fixing the amount, if any, of accrued depreciation to be deducted in fixing fair value for rate purposes, are examined with special reference to their conformity to the principle above discussed of a uniform annual investment charge, *i. e.*, a uniform percentage on cost-new to cover both interest and depreciation. In order to test such conformity it is necessary to show the combined percentage for interest and depreciation throughout the life of a utility. But the lives of various utilities even of the same general class show very different records as to the amount of accrued depreciation.

We know, however, that there is a tendency for all utilities to settle down after a time to a more or less uniform condition as regards the percentage amount of accrued depreciation and the annual requirements for renewals and replacements. After the various parts of a large public utility plant have gone through complete cycles of renewals the plant settles down to a condition in which, saving extraordinary functional depreciation, expenditures for maintenance, repairs and renewals become practically constant. There is little fluctuation from year to year and the averages by five or ten year periods are practically identical. This settling down or equalizing process is very greatly hastened by the fact that all large systems are constructed by piecemeal. Tables 1 to 4 used in comparing the different methods of depreciation are based on the theory that the plant is built up piecemeal. By assuming that the additions to the plant are uniform in amount and come at uniform intervals and by assuming a uniform life for all such additions, the process by which a plant settles down to uniform condition can be approximately shown, as well as the condition as to accrued depreciation and the requirements for renewals after the plant has thus settled down.⁵

1. *Straight-line method of estimating accrued depreciation and the annual depreciation allowance—Accrued depreciation deducted from cost-new in fixing fair value for rate purposes—*Under this method the combined percentage charge for interest and depreciation declines with the accruing depreciation until the plant settles down to a uniform

⁵ This method of illustration is an adaptation of that used by James E. Allison, chief engineer and commissioner of the St. Louis Public Service Commission, in a special report made to the Commission entitled "Should public service properties be depreciated to obtain fair value in rate or regulation cases?" September 11, 1912. See Report on United Railways of St. Louis by St. Louis Public Service Commission, November 19, 1912, Volume 1, pages 73-121.

amount of normal wear. Under the conditions assumed in Table I there is at the start a total charge of $8\frac{1}{2}$ per cent on cost-new (6 per cent for interest and $2\frac{1}{2}$ per cent for depreciation). The percentage for depreciation remains uniform, but with the accruing depreciation the 6 per cent interest charge based on cost-less-depreciation becomes a smaller and smaller percentage on cost-new until when the plant is settled down to permanent condition it is but $4\frac{1}{2}$ per cent on cost-new and the combined percentage for interest and depreciation is 7 per cent on cost-new as against $8\frac{1}{2}$ per cent at the start. This appears to throw an undue burden upon the early years.

TABLE I

STRAIGHT-LINE METHOD—ACCRUED DEPRECIATION DEDUCTED FROM COST-NEW

Assumed conditions:

1. Non-depreciable property (including scrap value of depreciable property) equals 50 per cent of cost-new.
2. Plant built piecemeal in 20 even annual increments of \$10,000 each.
3. Life of each annual cost increment (obsolescence, inadequacy and casualty not considered) 20 years.
4. Fair rate of return 6 per cent on cost-less-depreciation.
5. Annual straight-line ordinary physical depreciation 5 per cent on depreciable property or $2\frac{1}{2}$ per cent on total cost-new.
6. Depreciation reserve invested in business, thus reducing the necessary contribution from the sale of stock and bonds.

Year (1)	Cost-new (2)	Cost-less-depreciation (3)	Annual Return: 6% on Cost-less-depreciation (4)	Annual Depreciation: $2\frac{1}{2}$ % on Cost-new (5)	Return plus Annual Depreciation		Accrued Depreciation	
					Amount (cols. 4 + 5) (6)	Per Cent on Cost-new (7)	Amount (8)	Per Cent of Cost-new (9)
1	\$10,000	\$10,000	\$600	\$250	\$850	8.500	\$250	2.50
2	20,000	19,750	1,185	500	1,685	8.425	750	3.75
3	30,000	29,250	1,755	750	2,505	8.350	1,500	5.00
4	40,000	38,500	2,310	1,000	3,310	8.275	2,500	6.25
5	50,000	47,500	2,850	1,250	4,100	8.200	3,750	7.50
6	60,000	56,250	3,375	1,500	4,875	8.125	5,250	8.75
7	70,000	64,750	3,885	1,750	5,635	8.050	7,000	10.00
8	80,000	73,000	4,380	2,000	6,380	7.975	9,000	11.25
9	90,000	81,000	4,860	2,250	7,110	7.900	11,250	12.50
10	100,000	88,750	5,325	2,500	7,825	7.825	13,750	13.75
11	110,000	96,250	5,775	2,750	8,525	7.750	16,500	15.00
12	120,000	103,500	6,210	3,000	9,210	7.675	19,500	16.25
13	130,000	110,500	6,630	3,250	9,880	7.600	22,750	17.50
14	140,000	117,250	7,035	3,500	10,535	7.525	26,250	18.75
15	150,000	123,750	7,425	3,750	11,175	7.450	30,000	20.00
16	160,000	130,000	7,800	4,000	11,800	7.375	34,000	21.25
17	170,000	136,000	8,160	4,250	12,410	7.300	38,250	22.50
18	180,000	141,750	8,505	4,500	13,005	7.225	42,750	23.75
19	190,000	147,250	8,835	4,750	13,585	7.150	47,500	25.00
20	200,000	152,500	9,150	5,000	14,150	7.075	47,500	23.75
21	200,000	152,500	9,150	5,000	14,150	7.075	47,500	23.75
22	200,000	152,500	9,150	5,000	14,150	7.075	47,500	23.75
23	200,000	152,500	9,150	5,000	14,150	7.075	47,500	23.75

2. *Straight-line method of fixing the annual depreciation allowance—Accrued depreciation not deducted in fixing fair value for rate purposes*—It is apparent that in a new plant the requirements for renewals and replacements are much less in the early years than they are later when the plant has settled down to a substantially uniform condition as to average age and wear of its various parts. If an allowance for depreciation on the straight-line basis is made from the start, a large depreciation reserve will be accumulated that will never be actually needed for renewals or replacements. This reserve will represent the difference between cost-new and cost-less-depreciation, but as the plant as a whole can never be brought back to new condition this reserve will never be drawn upon. If this is true, it is argued that it is foolish to provide such a reserve. The depreciation allowance of the early years should be reduced to the amount necessary to meet actual renewals and replacements during the period while the plant is settling down. When the plant has finally settled down to a uniform condition as to average age and wear, then only will the full depreciation allowance on the straight-line basis be requisite. This method will relieve the operating expenses of the earlier years. It is assumed that the consumer will secure the benefit of this reduced expense either in lower rates of charge during such early years or in a lower development expense to be reimbursed out of future earnings. It follows naturally from this method that there should be no deduction for accrued depreciation in fixing fair value for rate purposes. Since under this theory the accrued depreciation is not amortized and not placed in a reserve and devoted to the capital purposes of the enterprise, the full cost-new represents the real sacrifice of the owners and constitutes the most natural base on which to compute a fair return.

This plan, however, shows up badly under the test of a

uniform combined percentage charge for interest and depreciation. Under the conditions assumed in Table II the combined percentage charge increases from 6 per cent on cost-new to 8½ per cent on cost-new. If a higher rate of straight-line depreciation were assumed, the difference would be even greater and might even amount to a doubling of the annual combined charge for interest and depreciation. Assuming a uniform output per \$1 of investment, this would mean that rates of charge would have to be largely increased. Interest is the investment carrying charge. Depreciation is the charge required to keep the investment intact. Together they constitute the total investment carrying charge.

TABLE II
STRAIGHT-LINE METHOD—NO DEDUCTION FROM COST-NEW

- Assumed conditions:
1-3. Same as in Table I.
4. Fair rate of return 6 per cent on cost-new.
5. Same as in Table I, except that no allowance is made for annual depreciation until actually required for renewals in the twentieth year.

Year	Cost-new	Annual Return: 6% on Cost-new	Annual Deprecia- tion: 2½% on Cost-new	Return plus Annual Depre- ciation: % on Cost-new
1	\$10,000	\$600	.....	6
2	20,000	1,200	.....	6
3	30,000	1,800	.....	6
4	40,000	2,400	.....	6
5	50,000	3,000	.....	6
6	60,000	3,600	.....	6
7	70,000	4,200	.....	6
8	80,000	4,800	.....	6
9	90,000	5,400	.....	6
10	100,000	6,000	.....	6
11	110,000	6,600	.....	6
12	120,000	7,200	.....	6
13	130,000	7,800	.....	6
14	140,000	8,400	.....	6
15	150,000	9,000	.....	6
16	160,000	9,600	.....	6
17	170,000	10,200	.....	6
18	180,000	10,800	.....	6
19	190,000	11,400	.....	6
20	200,000	12,000	\$5,000	8½
21	200,000	12,000	5,000	8½
22	200,000	12,000	5,000	8½
23	200,000	12,000	5,000	8½

3. *Sinking-fund method—No deduction from cost-new—*
For present purposes we may at once rule out the applica-
tion of a sinking-fund method of estimating depreciation

that would include a deduction of the accrued depreciation from cost-new in fixing fair value for rate purposes. We are trying now to find a plan that if applied to a public utility from the start would be suited to its purpose and equitable both to the public and the company. It needs no extended argument to demonstrate that if the moneys paid into the depreciation reserve are assumed to accumulate at compound interest for the sole benefit of the depreciation reserve, they do not constitute a return to the owner of any part of his original investment. Unless, therefore, he is allowed to earn a return on cost-new, a part of his actual investment is confiscated. Under the conditions assumed in Table III the sinking-fund method with no deduction for accrued depreciation shows a uniform combined annual charge for interest and depreciation of 7.68 per cent. This method appears to conform exactly to our uniform annual investment charge standard. There are, however, serious objections to the sinking-fund method of allowing for depreciation. It is assumed that a fund is set aside and made to accumulate at a prescribed rate of interest. Presumably it is to be invested in outside securities and kept as an entirely distinct fund. The assumption of a separate fund greatly complicates the accounts. It is usually merely an assumption both as to its existence and as to the rate at which it accumulates. Business practice recognizes that ordinarily the most natural, the most secure and the most profitable use that can be made of a depreciation reserve is to retain it in the business to meet the additional capital requirements for plant and working capital. Fundamentally the depreciation reserve is a part of the entire capital needed to carry on the enterprise. There is no reason why a part of the total capital should be set apart and assumed to accumulate at a rate different from that earned on the entire investment. The entire enterprise is a unit and the

profits, whatever they may be, are the earnings of the entire investment. One part of the investment should not be assumed to earn at an arbitrary rate and the rest at a different rate.

The investment of depreciation reserves as separate and distinct funds is liable to abuse in public utility enterprises. Such funds may be invested in doubtful securities or used to further the private financial schemes of the directors. They may be used by the holding company to invest in other public utility enterprises and may be made to earn for the holding company not 3 per cent or 4 per cent but 6 per cent or 8 per cent. If the 6 per cent or 8 per cent could have been earned by reinvesting in the business of the utility for which the reserve was created, the consumers of that utility have lost heavily by this method of financing.

TABLE III
SINKING-FUND METHOD—NO DEDUCTION FROM COST-NEW

Assumed conditions:
1-3. Same as in Table I.
4. Fair rate of return 6 per cent on cost-new.
5. Annual allowance for ordinary physical depreciation on 4 per cent sinking-fund basis, 3.358175 per cent on depreciable property or 1.679087 per cent on total cost-new.

Year (1)	Cost-new (2)	Annual Return: 6% on Cost-new (3)	Annual Depreciation Allowance: 1.679087% on Cost-new (4)	4% Interest on Depreciation Reserve (5)	Accrued Depreciation	
					Amount (6)	Per Cent of Cost-new (7)
1	\$10,000	\$600	\$167.91	\$0.00	\$167.91	1.679
2	20,000	1,200	335.82	6.72	510.45	2.552
3	30,000	1,800	503.73	20.42	1,034.60	3.449
4	40,000	2,400	671.63	41.38	1,747.61	4.369
5	50,000	3,000	839.54	69.90	2,657.05	5.314
6	60,000	3,600	1,007.45	106.28	3,770.78	6.285
7	70,000	4,200	1,175.36	150.83	5,096.07	7.281
8	80,000	4,800	1,343.27	203.88	6,644.12	8.305
9	90,000	5,400	1,511.18	265.76	8,421.06	9.357
10	100,000	6,000	1,679.09	336.84	10,436.99	10.437
11	110,000	6,600	1,847.00	417.48	12,701.47	11.547
12	120,000	7,200	2,014.90	508.06	15,224.43	12.687
13	130,000	7,800	2,182.81	608.98	18,016.22	13.859
14	140,000	8,400	2,350.72	720.65	21,087.59	15.062
15	150,000	9,000	2,518.63	843.50	24,449.72	16.300
16	160,000	9,600	2,686.54	977.99	28,114.25	17.571
17	170,000	10,200	2,854.45	1,124.57	32,093.27	18.878
18	180,000	10,800	3,022.36	1,283.73	36,399.36	20.222
19	190,000	11,400	3,190.27	1,455.97	41,045.60	21.603
20	200,000	12,000	3,358.18	1,641.82	41,045.60	20.523
21	200,000	12,000	3,358.18	1,641.82	41,045.60	20.523
22	200,000	12,000	3,358.18	1,641.82	41,045.60	20.523
23	200,000	12,000	3,358.18	1,641.82	41,045.60	20.523

The depreciation reserve is built up during the early years of the enterprise. It is during such earlier years that the payments into the depreciation reserve are normally greater than the annual expenditures for renewal. When a utility has settled down to a constant average of wear and age, the annual allowance for depreciation is, under the straight-line method, about equal to the annual expenditures for renewal, and, under the sinking-fund method, much less than such annual expenditures. As almost every utility is built somewhat on the piecemeal plan and as it particularly is true that there are normally a considerable number of additions to capital during the first twenty years of an enterprise, there would seem to be abundant opportunity for the investment of the entire depreciation reserve in such additions. It is also to be noted that a large part of this reserve may be invested *permanently* in the business. When a utility has settled down to a constant average of wear and age, the depreciation reserve remains at a constant percentage of cost-new. It is particularly appropriate, therefore, that this permanent reserve should be permanently invested in the business. And if this is done why should it be assumed to be earning for a depreciation fund at the rate of 4 per cent while the business as a whole is earning 6 per cent?

4. *Uniform investment charge method—Accrued depreciation deducted from cost-new*—The uniform investment charge method takes account of the fact that ordinarily the safest and best use that can be made of a depreciation reserve is to invest it in the business; that the reserve therefore becomes an integral part of the entire business and can not be assumed to earn at a different rate from that of the business as a whole; that the expenditures for renewals in the earlier years are much less than later when the *average age* of the various units constituting the plant is at a maximum; that the depreciation reserve is for the

most part accumulated from the excess of the depreciation allowance over the actual renewals during the earlier years; that investment of the reserve in the business decreases the amount of capital to be furnished by the owners and correspondingly decreases the percentage return *as based on cost-new*.

With a declining percentage return as based on cost-new the only way to secure a uniform combined annual charge for interest and depreciation is to so adjust the depreciation allowance that the increase in percentage charge for depreciation based on cost-new will exactly offset the decline in the percentage return.

Table IV shows a theoretical application of the uniform investment charge method. Under the assumed conditions a uniform annual charge of 7.36 per cent on cost-new is adequate for interest and depreciation. The return is 6 per cent on cost-less-depreciation, as cost-less-depreciation is the amount that under the assumed conditions has been secured from the issue of stock and bonds. The annual allowance for depreciation is the difference between this uniform annual charge of 7.36 per cent and the amount required to pay 6 per cent interest on cost-less-depreciation. The depreciation allowance increases in amount and in per cent of cost-new each year until in the twentieth year, when the plant has settled down to a uniform accrued depreciation of 19 per cent and to a uniform requirement for renewals of \$5000, or $2\frac{1}{2}$ per cent on cost-new, the depreciation allowance exactly meets this requirement.

In order to determine the percentage on cost-new that will provide a uniform annual charge for return plus depreciation, add to the fair rate of return the per cent on cost-new that set aside annually and compounded at the same rate of interest as the fair rate of return will within the equated life of the depreciable property exactly equal

the cost-new of such depreciable property. In Table IV the fair rate of return is 6 per cent, and 1.36 per cent on the cost-new compounded at 6 per cent will in 20 years exactly equal \$5000. The depreciable property amounts to 50 per cent of the cost-new, so that \$5000, the assumed accumulation of the sinking fund, is exactly equal to the depreciable part of the initial investment of \$10,000.

Conversely to find the accrued depreciation in an existing plant under the uniform annual investment charge method, find the amount that should be in the depreciation reserve assuming that the annual depreciation allowance had been set aside from the initiation of the enterprise in accordance with the method above described.

TABLE IV

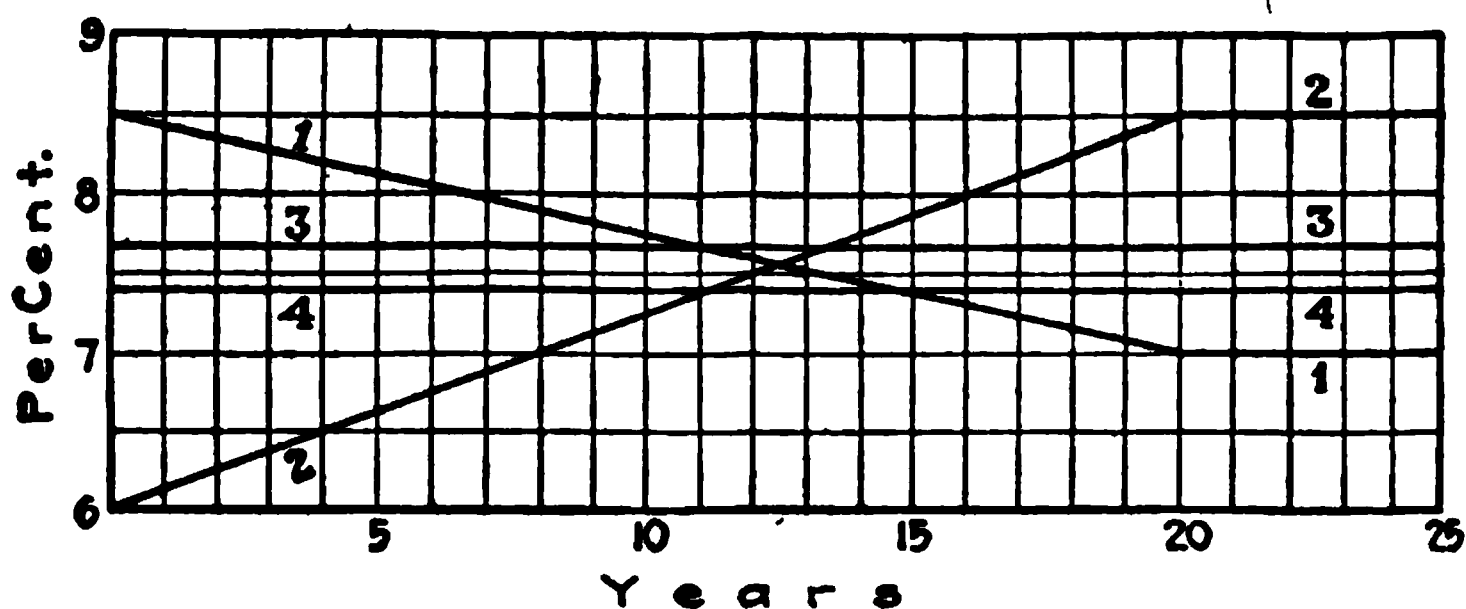
UNIFORM INVESTMENT CHARGE METHOD—ACCRUED DEPRECIATION DEDUCTED FROM COST-NEW

- Assumed conditions:
 1-4. Same as in Table I.
 5. Annual sinking fund contribution compounded at 6 per cent to equal 50 per cent of cost-new in 20 years, 1.35923 per cent on cost-new.
 6. Depreciation reserve invested in business, thus reducing the necessary contribution from the sale of stock and bonds.

Year (1)	Cost-new (2)	Cost-less-depreciation (3)	Return plus Annual Depreciation: 7.35923% on Cost-new (4)	Annual Return: 6% on Cost-less-depreciation (5)	Annual Depreciation (col. 4 less 5) (6)	Accrued Depreciation	
						Amount (7)	Per Cent of Cost-new (8)
1	\$10,000.00	\$10,000.00	\$735.92	\$600.00	\$135.92	\$135.92	1.359
2	20,000.00	19,864.08	1,471.85	1,191.84	280.01	415.93	2.080
3	30,000.00	29,584.07	2,207.77	1,775.04	432.73	848.66	2.829
4	40,000.00	39,151.34	2,943.69	2,349.08	594.61	1,443.27	3.608
5	50,000.00	48,556.73	3,679.61	2,913.40	766.21	2,209.48	4.419
6	60,000.00	57,790.52	4,415.54	3,467.43	948.11	3,157.59	5.263
7	70,000.00	66,842.41	5,151.46	4,010.54	1,140.92	4,298.51	6.141
8	80,000.00	75,701.49	5,887.38	4,542.09	1,345.29	5,643.80	7.055
9	90,000.00	84,356.20	6,623.31	5,061.37	1,561.94	7,205.74	8.006
10	100,000.00	92,794.26	7,359.23	5,567.66	1,791.57	8,997.31	8.997
11	110,000.00	101,002.69	8,095.15	6,060.16	2,034.99	11,032.30	10.029
12	120,000.00	108,967.70	8,831.08	6,538.06	2,293.02	13,325.32	11.104
13	130,000.00	116,674.68	9,567.00	7,000.48	2,566.52	15,891.84	12.224
14	140,000.00	124,108.16	10,302.92	7,446.49	2,856.43	18,748.27	13.392
15	150,000.00	131,251.73	11,038.84	7,875.10	3,163.74	21,912.01	14.608
16	160,000.00	138,087.99	11,774.77	8,285.28	3,489.49	25,401.50	15.876
17	170,000.00	144,598.50	12,510.69	8,675.91	3,834.78	29,236.28	17.198
18	180,000.00	150,763.72	13,246.61	9,045.82	4,200.79	33,437.07	18.576
19	190,000.00	156,562.93	13,982.54	9,393.78	4,588.76	38,025.83	20.014
20	200,000.00	161,974.17	14,718.46	9,718.45	5,000.01	38,025.88	19.013
21	200,000.00	161,974.34	14,718.46	9,718.46	5,000.00	38,025.66	19.013
22	200,000.00	161,974.34	14,718.46	9,718.46	5,000.00	38,025.66	19.013
23	200,000.00	161,974.34	14,718.46	9,718.46	5,000.00	38,025.66	19.013

The accompanying diagram is a graphical comparison of the combined percentage for interest and depreciation under each of the four methods of depreciation illustrated in Tables I to IV. The straight-line method with a deduction of accrued depreciation starts with the highest percentage but has the lowest permanent combined percentage. Straight-line depreciation with no deduction for accrued depreciation starts with the lowest percentage but has the highest permanent percentage. The sinking-fund method with no deduction for accrued depreciation has a uniform continuous percentage which is about midway between the permanent percentages under the two straight-line methods. The uniform-investment-charge method has a uniform percentage somewhat lower than the sinking-fund method. It would be identical with that of the sinking-fund method if the sinking fund were assumed to accumulate at the same interest rate as the rate of return, which in this case is 6 per cent. The uniform-investment-charge method, however, has manifest advantages from an accounting and practical business standpoint.

DIAGRAM OF COMBINED INTEREST AND DEPRECIATION PERCENTAGE UNDER METHOD



- (1) Straight-line depreciation; accrued depreciation deducted from cost-new (Table I).
- (2) Straight-line depreciation, no deduction from cost-new (Table II, modified).
- (3) Sinking-fund depreciation; no deduction from cost-new (Table III).
- (4) Uniform-investment-charge method; accrued depreciation deducted from cost-new (Table IV).

§ 1286. Application to heretofore unregulated utility.

Assuming the adoption of the uniform-annual-investment-charge method, the straight-line method, or the sinking-fund method as the proper method for the treatment of depreciation as regards a new enterprise or as regards the future of an existing enterprise, is it necessary to qualify such method as regards assumptions as to the past of a company that has heretofore not been subject to regulation? Can we assume that the theory that we apply to the future has been in operation since the initiation of the enterprise? If we determine that the sinking-fund method is upon the whole most just and practicable, can we assume that a fund has been accumulating on this basis and is now earning interest and that the amount of such interest may be deducted from the annual allowance that would otherwise be required to meet current renewals? Or if we adopt the uniform-annual-investment-charge method, can we assume that the depreciation reserve is equal to the amount that it should have reached had this method been applied from the initiation of the enterprise and that therefore it is just to deduct this amount from cost-new to determine fair value for rate purposes? It seems that both these questions must be answered in the affirmative. There is no question that depreciation is an operating expense. There is no question but that it is an expense that must by some method be apportioned over the entire life of the depreciable property. There is no way that this can be done except by apportioning a fair share of the burden to the operating expenses of each year since the initiation of the enterprise. To be sure there may be cases where the past profits of an enterprise have been insufficient to pay a fair rate of return and at the same time set aside a proper depreciation reserve. This situation may demand that in prescribing regulations for the future the company be allowed to reim-

burse out of earnings the amounts by which past earnings have failed to provide an amount adequate to pay operating expenses including depreciation and a fair return on the investment. It is important to note that this shortage is properly treated as a deficit to be reimbursed and not as additional outlay to be capitalized.

§ 1287. Distinction between accrued depreciation and operating efficiency.

By accrued depreciation is meant the value that has disappeared by reason of wear and tear, decay, obsolescence or inadequacy. Accrued depreciation includes not only depreciation that lessens the present operating efficiency of a particular unit, but also all depreciation that lessens the useful life of the existing unit as compared with a new unit. For purposes of purchase and sale there is, of course, no question but that a half-worn rail is of less value than a new rail. The difference between the value of the half-worn rail and that of the new rail constitutes the accrued depreciation. While this is perfectly clear as applied to ordinary exchanges, it has sometimes been questioned as applied to the valuation of public utility properties for rate purposes. The courts, commissions and authorities are almost unanimous, however, in holding that the accrued depreciation as above defined should be deducted from fair value in rate cases. There are a few commission decisions that hold that cost-new should be taken as the basis for fair value for rate purposes, but even here the commissions recognize the existence of accrued depreciation and the distinction between operating efficiency and percentage of accrued depreciation.

In the numerous cases in which accrued depreciation has been deducted in determining fair value for rate purposes it is evident that the accrued depreciation is made up almost

wholly of the estimated loss in value of units operating with one hundred per cent efficiency, due solely to the fact that such units are old and worn and that therefore a portion of their total useful life has expired. Possibly in a few of the earlier decisions the courts did not allow sufficiently for this factor. Though this question was not discussed in the Consolidated Gas Case, an examination of the record would seem to indicate that the allowance for depreciation was based chiefly on loss of operating efficiency. In the Knoxville Water Case, decided by the United States Supreme Court the same day, this question was brought up and the court laid down the rule that the accrued depreciation should be deducted and that in estimating such depreciation consideration should be given to depreciation due to ordinary wear and tear, as well as to depreciation affecting the present efficiency of the plant (see above, § 431). This same principle is also stated by Justice Hughes in the Minnesota Rate Cases (see § 1289).

The uniform systems of accounts prescribed by the commissions are in general based on the theory that the annual allowance for depreciation will create a reserve which will at all times equal the accrued depreciation. It is not a question of maintaining operating efficiency, but of maintaining unimpaired the capital of the company. This is clearly stated in an explanatory letter by Henry C. Adams contained in the Interstate Commerce Commission's classifications of operating expenses for steam railroads, Third Revised Issue, 1907, at page 10: "The question of depreciation is fundamentally a question of values, and not a question of maintaining the original capacity, or a standard of operating efficiency, or of keeping full the numbers in the equipment series." The New York Public Service Commission for the Second District has in its uniform system of accounts for telephone com-

panies defined expense of depreciation as follows (at page 51): "By 'expense of depreciation' is meant the loss suffered through the current lessening in value of tangible property from wear and tear, decay, obsolescence, or inadequacy resulting from use, age, physical change, or supersession by reason of new inventions and discoveries, changes in popular demand, or public requirements; also losses suffered through destruction of property by extraordinary casualties and decreases in the value of intangible property through lapse of time." The same definition is contained in the California Railroad Commission's uniform classification of accounts for electrical corporations, January 1, 1913 (page 62).

§ 1288. Hayes on deduction of accrued depreciation.

Hammond V. Hayes in his paper on "Original Cost *versus* Replacement Cost" takes the ground that accrued depreciation should be deducted in determining either original cost or replacement cost as a basis for rate regulation. He says (at page 625):⁶

In the case of an actual appraisal it may be found that much of the present property of the undertaking has been purchased with money derived from the public and contributed by it for the express purpose of paying for the renewals of portions of the plant which may have become unserviceable. The investment of these funds—reserves for depreciation—in needed plant extensions is a wise plan for most successful and growing public utilities, as thereby the undertaking is required to pay a less amount as a return than would be required if new money had been obtained from the stockholders. Moreover, there would be little expense involved in obtaining new money at some later time when funds were required to pay for renewals. Clearly both the original cost and the replacement cost will include, in

⁶ Original Cost *versus* Replacement Cost as a Basis for Rate Regulation. By Hammond V. Hayes, *Quarterly Journal of Economics*, August, 1913, pages 616-629.

such cases, the cost of plant built not only with the money of the security holders, but with the depreciation reserve funds. If the reserves for depreciation had been properly made and all invested in plant, the depreciation would equal the depreciation reserves and, if the original cost-new was reduced by the loss in value due to depreciation, there would be eliminated from the original cost the cost of that portion of the plant which had been purchased with the money contributed by the public for the purpose of providing for renewals. If the reserves for depreciation had been inadequate but had been invested in plant, the present value of the property would be less than the original cost to the security holders, thereby penalizing the undertaking for improper management in not making proper reserves for depreciation. Thus it is seen that the present value derived from the original cost can only include the present value of plant purchased with the money of security holders and possibly with excess earnings. It can not include reserves for depreciation.

This same subject is exhaustively and convincingly treated in Mr. Hayes's treatise on Public Utilities; Their Cost-New and Depreciation, 1913, pages 182-206.

DECISIONS RELATIVE TO ACCRUED DEPRECIATION

§ 1289. United States Supreme Court in Minnesota Rate Cases.

In the Minnesota Rate Cases⁷ the lower court had based the valuation on cost-of-reproduction-new without deduction for depreciation. It was held that the increase in value due to adaptation and solidification of roadbed was more than adequate to fully offset all existing depreciation in the physical structures. On appeal the supreme court rejected this contention, holding that items of appreciation and depreciation should be estimated separately and stated separately in the appraisal and that an appraisal was manifestly incomplete that included structures at cost-new when in fact they had de-

⁷ 230 U. S. 352, June 9, 1913.

preciated, owing to ordinary wear and tear or other causes. Justice Hughes in delivering the opinion of the court discusses this question as follows (at pages 456-458):

The master allowed the cost-of-reproduction-new without deduction for depreciation. It was not denied that there was depreciation in fact. As the master said, "everything on and above the road-bed depreciates from wear and weather stress. The life of a tie is from eight to ten years only. Structures become antiquated, inadequate and more or less dilapidated. Ballast requires renewal, tools and machinery wear out, cars, locomotives and equipment, as time goes on, are worn out or discarded for newer types." But it was found that this depreciation was more than offset by appreciation; that "the road-bed was constantly increasing in value;" that it "becomes solidified, embankments and slopes or excavations become settled and stable and so the better resist the effects of rains and frost;" that it "becomes adjusted to surface drainage, and the adjustment is made permanent by concrete structures and rip-rap;" and that in other ways a road-bed long in use "is far more valuable than one newly constructed." It was said that "a large part of the depreciation is taken care of by constant repairs, renewals, additions and replacements, a sufficient sum being annually set aside and devoted to this purpose, so that this, with the application of road-bed and adaptation to the needs of the country and of the public served, together with working capital . . . fully offsets all depreciation and renders the physical properties of the road not less valuable than their cost-of-reproduction-new." And in a further statement upon the point, the "knowledge derived from experience" and "readiness to serve" were mentioned as additional offsets.

We can not approve this disposition of the matter of depreciation. It appears that the master allowed, in the cost of reproduction, the sum of \$1,613,612 for adaptation and solidification of road-bed, this being included in the item of grading and being the estimate of the engineer of the state commission of the proper amount to be allowed. It is also to be noted that the depreciation in question is not that which has been overcome by

repairs and replacements, but is the actual existing depreciation in the plant as compared with the new one. It would seem to be inevitable that in many parts of the plant there should be such depreciation, as, for example, in old structures and equipment remaining on hand. And when an estimate of value is made on the basis of reproduction-new, the extent of existing depreciation should be shown and deducted. This apparently was done in the statement submitted by this company to the Interstate Commerce Commission in the Spokane Rate case in connection with an estimate of the cost of reproduction of the entire system as of March, 1907. (See 15 I. C. C. 395, 396.) In the present case, it appears that the engineer of the state commission estimated the depreciation in the property at between eight and nine million dollars. If there are items entering into the estimate of cost which should be credited with appreciation, this also should appear, so that instead of a broad comparison there should be specific findings showing the items which enter into the account of physical valuation on both sides.

It must be remembered that we are concerned with a charge of confiscation of property by the denial of a fair return for its use; and to determine the truth of the charge there is sought to be ascertained the present value of the property. The realization of the benefits of property must always depend in large degree on the ability and sagacity of those who employ it, but the appraisalment is of an instrument of public service, as property, not of the skill of the users. And when particular physical items are estimated as worth so much new, if in fact they be depreciated, this amount should be found and allowed for. If this is not done, the physical valuation is manifestly incomplete. And it must be regarded as incomplete in this case. *Knoxville v. Knoxville Water Co.*, 212 U. S. 1, 10.

§ 1290. Federal Court.

Montana, Wyoming and Southern Railroad Company v. Board of Railroad Commissioners of Montana ⁸ involves a valuation for rate purposes. The District Court en-

⁸ 198 Fed. 991, March 30, 1912.

joined the enforcement of a rate fixed by the Montana Commission. In this case the total reproduction cost, including overhead charges, discount on securities and supplies, amounted to \$781,459. The court deducted on account of accrued depreciation \$31,182. Circuit Court Judge Hunt discusses the question of accrued depreciation and the methods of its determination as follows (at pages 1004-1005):

Following the doctrine of *City of Knoxville v. Knoxville Waterworks*, 212 U. S. 1, 29 Sup. Ct. 148, 53 L. Ed. 371, the master made reasonable depreciation allowances. The reason for such findings is that it is fair to deduct from the estimated cost-of-reproduction-anew an amount which will represent the wear and tear on the property since it was put into operation. Depreciation accounts find their foundation in efforts to equalize profits during different years, so as to avoid requiring the total cost of improvements to appear as an expense of the year when such improvement proves unserviceable. The systems of estimating depreciation may differ, but the principle of the allowance for depreciation rests upon the foundation already stated. It goes without more than mention that ordinary wear and tear and decay are the principal causes for depreciation, although other factors which enter into the matter are that what is in use becomes out of date because of improvement in scientific knowledge or improved methods. Accountants and students, as well as practical railroad men, recognize the necessity for a railroad company to provide for a depreciation fund or account. The Interstate Commerce Commission, in the performance of its great services to the public and to railroad carriers as well, provides that depreciation accounts of equipment shall be kept by railroad carriers, and that there shall be included within such accounts "a monthly charge of one-twelfth of _____ per cent per annum of the original cost (estimated if not known) record value or purchase price" of equipment, to provide a fund for replacement when retired.

The master allowed what appeared on the carrier's books,

namely, \$10,394.15, made up of these items: Equipment, \$2,555.63; rails, \$1,487.76; ties, \$5,279.04; and bridges and trestles, \$1,071.72. This was depreciation on the books between September 1, 1909, and September 1, 1910. But he allowed the additional sum of \$12,694.55 depreciation, which he found ought to have been properly charged between September 1, 1909, and September 1, 1910, to earnings and for which provision should have been made out of operating expenses by complainant, in order that its property might not become depreciated in efficiency or value. The additional allowance was based upon testimony that the entries in the books as just heretofore stated did not truly represent the depreciation account. One expert witness said he would allow as proper depreciation of equipment \$4,955, and proper depreciation and reserve for ties, rails, bridges, and buildings, \$18,153.70. In this way he arrived at the difference between what was charged and what he said ought to have been charged, or \$12,714.55. There is a slight discrepancy in these figures and those found by the master (\$12,694.55), due probably to clerical error. Equipment depreciation was based upon 20 years' life for a locomotive and 5 per cent depreciation for each year, or \$1,450 for each year, with a salvage of \$180 per year, or net depreciation \$1,270 per year. The depreciation allowances upon rails were based upon percentages on the estimated weights of rails per ton and the estimated life of a rail, put at 16 years. Allowing for tie depreciation, it was estimated that at the end of 7 years the depreciation would equal the original cost of installment, the value of each tie being put at 50 cents when placed on the track allowing a 7-year life for each tie from the time of the estimate.

Part of the additional allowance was estimated depreciation upon buildings, upon a 25-year life with no salvage, and upon culverts and trestles, on the basis of an 8-year life, or 12½ per cent.

While the additional depreciation allowance of \$12,694.55 per annum accords with the evidence of complainant, and seems to justify the master's finding, yet there are so many differences in the statements of the witnesses as to the estimates, all of which depend upon opinions of what should or should not be,

that it appears to be just to hold to the \$10,394.15 shown on the books for 1909-10. Gathering from the evidence that different portions of the track were added at different times after 1906, and that different sidings had been built, and that some of the ties had been in the track for one, two, and three years only, estimate of wear and tear may be fairly made as of three years prior to March, 1910. The deduction for depreciation, therefore, should be three times \$10,394.15, or \$31,182.45.

In *Bonbright v. Corporation Commission of Arizona*⁹ the Federal Court granted an interlocutory injunction against the enforcement of an order of the Corporation Commission of Arizona fixing the rates of charge of the Pacific Gas and Electric Company. The Commission determined the reproduction cost of the gas property to be \$181,850, and such cost-less-depreciation to be \$164,278. Likewise the reproduction cost of the electric property was fixed at \$342,652, and the reproduction-cost-less-depreciation at \$273,181. The company claimed that the deduction for accrued depreciation was excessive and the court appears to sustain this contention. Circuit Judge Morrow says (at pages 51-52):

Returning now to the difference in the present physical valuation of the plant, we find it is made up chiefly of the amount estimated for depreciation. An estimate for depreciation is, of course, correct. The question is as to the amount which should be allowed for depreciation. The Corporation Commission estimated the value of the various physical units, and then estimated that the plant had depreciated at the rate of 7 per cent per annum, which for an average of, say, seven years, would be 49 per cent for the total depreciation upon the whole plant, leaving the present value of the plant only 51 per cent of its original value. The experts for the complainant made an examination of the various units of the physical properties, and as far as possible made an actual valuation of

⁹ 210 Fed. 44, November 19, 1913.

each unit, and when that was not possible then an estimated depreciation was made. . . .

It would seem that, if the plant is in the condition set forth in this statement, a deduction of 49 per cent from its original value for depreciation, or approximately that percentage, is excessive; but to what extent it is excessive we do not now determine. We call attention to the statement for the purpose of referring to the fact that the plant appears to have been kept in repair and is now in good condition. In the Knoxville case the Supreme Court commended this method of preserving the integrity of a public service plant. . . .

This brings us to a peculiar feature of this case. There was on hand in the treasury of the company at the time of the valuation of the plant the sum of \$64,292.67, accumulated for the purpose of meeting the expense of current repairs and for replacing such parts of the property as had been worn out and the life of the part ended. The fund had been withheld from the stockholders that it might be used in preserving the plant in good condition and in proper efficiency. This was good business judgment on the part of the officers of the corporation and must be approved. Public service corporations are to be encouraged in maintaining their plants in a proper state of efficiency. We are of the opinion that the Corporation Commission was in error in its estimate of depreciation of this plant, and particularly was in error in omitting this reserve fund from its valuation of the plant.

§ 1291. Arizona Commission.

Huffman v. Tucson Gas, Electric Light and Power Company ¹⁰ involves the valuation of a gas and electric plant for rate purposes by the Arizona Corporation Commission. In determining fair value for rate purposes the Commission held that accrued depreciation should be deducted. The Commission says (at page 748):

It is the Commission's belief, under the conditions existing

¹⁰ 21 A. T. & T. Co. Com. L. 725, July 9, 1913, Arizona Corporation Commission.

in Tucson, that the depreciated value of the property is the basis upon which should be established the value for rate-making purposes, allowance for return and depreciation reserve.

§ 1292. California Commission.

*City of Palo Alto v. Palo Alto Gas Company*¹¹ involves the valuation of a gas plant for rate purposes. The Commission holds that in fixing fair value for rate purposes consideration should be given to accrued depreciation, even though the plant be operating with 100 per cent efficiency (page 306). The fact that the property is not new will have material bearing in determining the proper basis for fixing the rate in this case (page 311). The Commission's engineer estimated the accrued depreciation of the distribution system at approximately 23 per cent of the cost-new. The Commission does not state in its finding as to fair value just what consideration it has given to this factor.

§ 1293. Chicago telephone appraisal.

In his report on the rates of the Chicago Telephone Company¹² Professor Bemis discusses the sinking-fund and straight-line methods of estimating accrued depreciation, and concludes that under the sinking-fund method the rate of return should be reckoned on cost-new, but that under the straight-line method the rate of return should be reckoned from year to year on cost-less-depreciation. He says (at pages 50-52):

If the first method, or sinking fund, is applied to the past history of the plant, the rate of return must be reckoned upon the first-cost-new of the property in use.

If, however, the second or straight-line method be used, the

¹¹ 2 Cal. R. C. R. 300, 18 A.T. & T. Co. Com. L. 966, March 12, 1913.

¹² Report on the investigation of the Chicago Telephone Company Submitted to the Committee on Gas, Oil and Electric Light by Edward W. Bemis, October 25, 1912.

rate of return but not the depreciation should be reckoned from year to year on the depreciated value of the property. An illustration will make this latter point clear. Suppose the property cost new \$100,000, and that 7 per cent be assumed as a fair return on the investment, but let it be further assumed that the property will last only $33\frac{1}{3}$ years, and therefore will require 3 per cent, or \$3,000 a year, without interest, to make good the depreciation. Besides enough for operating expenses, the users pay \$10,000 to the company the first year. Of this amount, \$7,000 is profit and \$3,000 makes good the depreciation. If the company is a growing one, it will need even more than \$3,000 for extensions, which it will pay for, in part, with the above \$3,000 furnished by its customers, and in part through further stock and bond issues. If \$4,000 were needed for extensions during the first year and \$3,000 were paid in by the customers, the real capital at the beginning of the second year would be \$101,000. If no addition to the investment were required, the capital would be \$97,000, and the company would have \$3,000 to put into similar investments elsewhere. If the company could not get 7 per cent elsewhere, that would indicate that the rate of return to the company in question had been put too high, since the rate of return should represent, as nearly as possible, what investors demand and get in similar investments under similar conditions. The objection may be raised that if the property were a stagnant one the rate of return each year, say 7 per cent, would be on a reduced capital and therefore the rates would fall as compared with a new investment of similar character elsewhere. This is of slight importance, because the problem is the determining of what is just in each community.

Under this theory, of course, if a stagnant plant begins to grow rapidly, and a large amount of new capital were called in, or if the plant were entirely rebuilt, there might have to be a temporary increase of rates, but that, under a system of public regulations and publicity of accounts, could be allowed. Such suppositions, however, of stagnant plants have little application to most municipal utilities and no application to the Chicago Telephone Company.

In the case of the latter company, another argument is raised. This plant for the present may be assumed to have cost the security holders—that is the stock, bond and note holders—\$33,000,000, and to have cost the telephone subscriber \$5,000,000 for a depreciation reserve.

The company claims that it has had the burden of investing and caring for this \$5,000,000 of depreciation reserve, which has been put into extensions, and should have a reward for the same. To this it should be replied, first, the salaries of all the officials and managers that supervised these extensions have been paid out of operating expenses and will be so paid in the future. Second, the security to the stock holders has been increased by this depreciation reserve collected from the subscriber and put into extensions. Third, if the depreciation reserve had been placed in an outside sinking fund, the owners of the property would have had to put their hands into their pockets for the extensions which have been paid for by the subscribers, while the total value of the telephone property would not have been changed thereby, and the investment in the sinking fund would have been scarcely more secure than the investment actually made in extensions. The straight-line method will be followed in this report, and the yearly depreciation will be taken from the cost-new of the depreciable investment.

**§ 1294. Railway and Canal Commission of Great Britain—
Reduction of estimated life on account of future functional depreciation.**

National Telephone Co., Ltd., *v.* His Majesty's Postmaster-General, decided January 13, 1913, involves the determination by the Railway and Canal Commission of Great Britain¹³ of the value of the property of the National Telephone Company upon its transfer to the Postmaster-General at the expiration of the company's license on December 31, 1911. Under the purchase agreement between the parties dated August 8, 1905, the purchase

¹³ 16 A. T. & T. Co. Com. L. 491, January 13, 1913.

price was to be based substantially upon the reproduction cost of the physical property less depreciation.

In this case the Postmaster-General contended that in computing the life of the plant for the purpose of estimating accrued depreciation, the life period should be reduced on account of a probable shorter "effective life" due to inadequacy, obsolescence or other factors requiring supersession of a particular unit before it has been worn out. The greater stress was laid upon probable supersession through inadequacy due to the probable growth of the telephone business. The court held, however, that to give weight to these considerations involved a confusion of thought and that the possible and even probable growth of the Postmaster-General's telephone business had no bearing upon the present value of the company's plant. The court, however, attempted to make due allowance for all functional depreciation actually existing in the plant at the time of the valuation. Sir James Woodhouse in delivering his judgment in this case discusses this question as follows (at pages 536-538):

The basis on which the company ask us to assess the depreciation is . . . to take the period for which, under normal conditions, the plant, as telephone plant, would be likely to remain *in situ*, according to the ordinary user of the plant, under prudent business management. If it had to be removed at a period shorter than that of its physical life for commercial or economic reasons, this shorter life—called the effective or proper life—it is contended, is the true standard or test by which its existence must be measured. . . .

It was very forcibly urged by the Solicitor-General that these considerations were within the purview of the words of the valuation clause, and that we could only adequately give effect to them by the limitation of the plant to its practical or effective life as exemplified in the way I have mentioned. I do not think, however, that it would be a right or reasonable interpretation

to so construe the words "suitability for the telephonic service of the Postmaster-General" as to give them this effect. It would be making the value of the plant dependent on and determinable by the will and for the future business exigencies of the buyer whose governing factor would naturally be the desire to earn, in the most advantageous way he could, revenue in respect of which the seller would have no voice or control and no interest whatever. We are precluded from taking into consideration all such circumstances to enhance the price on the part of the vendor, and I think equally they must be excluded in relation to the purchaser. Plant which has to be renewed because its life is shortened by the withdrawal of way leaves, or which is rendered ineffective by the operations of nature and causes beyond the control of the owner, such as electrolysis, or which becomes obsolescent owing to scientific improvements or inventions superseding existing methods, may, I think, be properly considered and allowed for under the words in the contract.

§ 1295. Maryland Commission.

*Bachrach v. Consolidated Gas, Electric Light and Power Company of Baltimore*¹⁴ is a rate case. Although the Commission made a valuation of the property of the company, such valuation did not have a very important bearing on the conclusions reached. The Maryland law provides that so far as possible the Commission shall not disturb the value of the company's bonds. In the present case the rate fixed was based largely upon a consideration of the amount required to safeguard the value of the bonds. The Commission holds that accrued depreciation must be deducted in determining fair value. The Commission says (at pages 173-174):

Ford, Bacon & Davis do not deduct anything for depreciation, for the reason that, in their judgment, the adjustment of the property, the elimination of "many elements of accident that

¹⁴ 14 A. T. & T. Co. Com. L. 154, Maryland Public Service Commission.

exist in the first aggregation of an apparatus that goes to make up a plant," and the excellent maintenance of the company's plant, offset the actual depreciation that may have accrued. We think there is something in this view, but there is nothing in the case from which we can estimate the appreciated values as an offset to depreciation except the opinions of Mr. Uebelacker and Mr. Wagner. There is no doubt that the property is well maintained and thoroughly efficient, which indicates that the actual depreciation is not as great as the life tables, which are largely made up of averages, may figure out. We think it should not exceed the amount figured out by Dr. Bemis as "accrued depreciation," which is \$2,016,096.

§ 1296. New Hampshire Commission.

In passing on an application for a transfer of the property of the Berlin Electric Light Company¹⁶ the New Hampshire Public Service Commission bases its determination chiefly on the fair value of the property for rate purposes. The Commission holds that as a general rule accrued depreciation should be deducted from cost-new in estimating fair value for rate purposes, but that in case earnings have not in the past been adequate to provide for depreciation such depreciation may constitute a development cost which will offset the deduction for accrued depreciation. The Commission says (at pages 194-195):

To allow the utility to pay out in dividends the full net earnings, making no reservation for depreciation, and to continue to earn a rate based upon the first cost of the property involved, would be like allowing interest upon the amount of one's original investment in a bank regardless of withdrawals.

The reservation of a depreciation fund does not ordinarily require the withdrawal of any funds from actual investment in utility property. Our statute provides that such fund "may be

¹⁶ In *Re Sale of Berlin Electric Light Company*, 3 N. H. P. S. C. R. 174, 21 A. T. & T. Co. Com. L. 781, August 30, 1913.

expended in new construction, extensions or additions to the property." In fact that is just what has been done here in the case both of the Berlin and the Cascade properties, during the last few years at least.

The new construction in recent years represents in part that portion of the revenue which under a proper system of accounting would have been set aside for depreciation, and in part it represents a reinvestment of net earnings above a proper reserve for depreciation. To add to the value of the plant all the additions which have been made, as we are asked to do, and to make no deduction for the depreciation of the plant incurred while those additions were making, would be a palpable injustice to the public.

We do not hold that the full amount of depreciation should in every case be deducted from the cost of reproduction. It is merely one of the facts to be considered in making a finding of fair value. It stands in the same category as original cost of physical properties, other necessary early expenditures, present reproduction cost of physical properties, and other facts concerning which inquiry is made, all of which should be determined as accurately as possible, but none of which have a uniform fixed value in each case. There may be cases where plants well conceived and well managed have suffered depreciation which in fact represents a part of the cost of developing the business to a point where a fair return can be secured. In other cases, as, for example, where adequate returns have been received to afford a fair return and to maintain a depreciation reserve, but have been entirely paid out in dividends, the entire amount may properly be deducted from present cost of reproduction in coming to the final conclusion as to the fair value. Between these two extremes the proper course will vary according to the circumstances in each case. But in every case it is desirable to determine, for the purpose of consideration, the full depreciation as accurately as possible.

§ 1297. New Jersey Commission—Distinction between actual and theoretical depreciation.

The case of *Gately & Hurley v. Delaware and Atlantic*

Telegraph and Telephone Company¹⁶ involves the valuation of a telephone plant for rate purposes by the Board of Public Utility Commissioners of New Jersey. The existing rates charged by the company were upheld by the Board, as they netted the company considerably less than the amount determined by the Board to be a fair return upon the fair value of the property. In this case the Board discusses at considerable length the question of what deduction, if any, should be made from cost-new in determining fair value for rate purposes. While the decision of this question was not necessary to the case at hand, the Board came to the tentative conclusion that there should be some deduction for accrued depreciation, but such deduction should not be calculated upon expired service value estimated from life tables, in which the estimated life is influenced largely by considerations of obsolescence and inadequacy. In the case at hand the Board determined that there should be a deduction on account of depreciation accrued by reason of age and use or wear and tear. The Board estimated the total accrued depreciation based on inadequacy and obsolescence, as well as upon the wear and tear, at about 25 per cent of the replacement cost-new of the depreciable property, while the deduction made in the estimate of fair value on account of depreciation due exclusively to wear and tear amounted to about 10 per cent of the cost-new of the depreciable property. In discussing the general subject the Board says (at pages 549-552):

It is urged that a utility, so far as its tangible property is concerned, is entitled to a return only upon the unexpired service value of said tangible property; first, because the unexpired service value of tangible property represents the entire present investment in tangible property; second, because the expired service value of tangible property has in the past either been

¹⁶ 1 N. J. B. P. U. C. 519, January 7, 1913.

returned to investors in the guise of dividends, in which case they are not entitled thereafter to earnings on said expired service value, or, if expired service value in the past has not been returned to them in the guise of dividends, there is implied an ill-judged investment outlay on their part, as proved by the fact that past revenues have been insufficient to reimburse investors therefor.

The considerations adduced in the preceding paragraph fail to take due cognizance of the fact that a public utility lies under a peculiar obligation not similarly incumbent upon the ordinary business concern. This obligation consists in the continuous requirement of putting back into the tangible equipment such items as are necessary from time to time to afford to consumers service in quality and extent equal to the service which could be afforded by a brand-new plant of the same magnitude. This obligation to replace said items does not allow the public utility to obtain the funds therefor from increased rates or charges, nor from the issue and sale of additional securities. The magnitude of the utility's responsibility is therefore the sum of the unexpired service value of tangible property plus the pecuniary liability to make replacements as needed from its own pocket. As its responsibility is measured by a sum in excess of the unexpired service value of its tangibles, it would seem to us that the equitable base upon which it is entitled to a return is in excess of the unexpired service value of its apparatus, and approaches as a limit the total replacement-cost-new of its tangible property.

On the other hand, it would appear that an allowance of replacement-cost-new of tangibles as the base on which a return is to be allowed (so far as tangible property is concerned) might in certain circumstances be excessive. In comparison, for example, with a utility which has to-day in its plant tangible property of a service value equal to the service-value-new of its original investment in tangibles, or which has accumulated a fund sufficient at any time to replace in full the expired service value of its tangibles, the utility which has done neither of these things, but simply lies under the naked obligation to make such replacements as required, is less meritorious and is deserving of

somewhat less allowance in the base for return. There is a greater assurance in the latter case than in the former of prompt and adequate addition of needed items when without such additions a service of 100 per cent efficiency would be lacking. A public utility whose tangible property has a less service value than when its tangible property is brand-new and which has not been earning enough to pay dividends, and which has no accumulated surplus, and whose stock is full-paid and non-assessable, could in certain circumstances only with the greatest difficulty, and in other circumstances not at all, put back into its tangible property the items as required. Furthermore, the utility whose tangible property, or whose tangible property plus its depreciation fund, have not fallen below replacement-cost-new affords a guarantee that its original outlay was fully warranted by the needs of the community it serves. This certainly would be the case where, in addition to maintaining the value of its tangible property intact, it has also paid reasonable returns to its investors. For both reasons, it would seem unfair to the company, whose intangible property shows no decline from replacement-cost-new, that it should be allowed a return upon a base no greater than the base on which returns are allowed to a similar utility of equal magnitude the service value of whose tangibles shows a shrinkage away from their replacement-cost-new.

While, therefore, it may be only a first approximation to justice in distinguishing between utilities of the two contrasted classes, a deduction in the case of the less meritorious or less capably projected utility may well be made. Where such deduction is moderate in extent, and serves only to cover such expired service value as has resulted demonstrably from age and wear, we are of the opinion that said deduction may fairly be made. While we are not confident that in the Knoxville Water case the Supreme Court of the United States had before it any record of each and every consideration properly to be considered in the matter of making deductions from the replacement-value-new of tangible property, it is tolerably clear that this deduction or abatement here proposed is wholly in keeping with the valuation rule that seemingly may be deduced from

that opinion. Such abatement or deduction is only a fraction of the total expired service value of tangible property in this particular case. This moderate reduction has also this advantage: that it is based upon certainly ascertained inspection or investigation, and not upon the more or less conjectural allowances for depreciation estimated by tables purporting to give the expectation of life of various parts of the utility's plant. . . .

In the case at bar it would make no difference, so far as the disposition of the pending case is concerned, which basis for a return is chosen. On the basis of reproduction-value-new, or upon the basis of an abatement such as is contemplated in the Knoxville case, or on the basis of such deduction as might be calculated upon expired service value estimated from life tables, it is demonstrable that the past returns to this company have not been excessive, unjust or unreasonable.

It must be noted that by virtue of the now prevalent régime of regulation with prescribed accounting provision for adequate depreciation, utilities will be regarded henceforth as coming under the requirements of continuous operation; that is to say, from now on the utilities will be expected to maintain intact the present value of their capital investment. When, therefore, rates of depreciation are estimated in accordance with due and proper allowance therefor as provided in the statute, the sums standing to the credit of the depreciation reserve will be deducted from the total value of assets to ascertain theoretically the base on which utilities shall be entitled to a fair return. . . .

This vexed question of the proper base on which to allow a return, so far as tangible property is concerned, it is not necessary to decide in the case at bar; and we will not prematurely commit ourselves irrevocably upon this point, save that we are strongly of opinion that where the past financial history of a utility discloses the fact of an investment made unduly in advance of community needs, and thereby giving rise to depreciation uncovered, an adequate deduction therefor ought to be made. This amounts to what in essence is a corporate deficit which should be distinguished from unearned depreciation deserving of ultimate recognition and incorporation in the

property base on which to predicate just earnings in future.

This same subject was also treated by the Commission in its decision *In Re Rates of the Public Service Gas Company*, decided December 26, 1912.¹⁷ In this case the Board deducted accrued depreciation from cost-new in order to determine fair value for rate purposes. The accrued depreciation found, however, amounted to but \$200,980, which was 6.6 per cent on the estimated cost of the depreciable property less scrap value. In estimating the accrued depreciation no consideration was given to possible future obsolescence or inadequacy. The Board held that while future obsolescence and inadequacy must be considered in fixing the annual allowance for depreciation, it was not a matter that should necessarily be considered in fixing the amount of accrued depreciation. The Board states that the accrued depreciation has been determined by the inspection method and that the estimate made includes "wear, tear and age," but not obsolescence or inadequacy. The following is from the opinion of the Board (at pages 490-491):

To obtain present value, it becomes necessary to deduct from the estimated cost-to-reproduce-new the accrued depreciation. Accrued depreciation may be obtained in several different ways, the most important of which appear to be two: Theoretical depreciation calculated by means of life tables, and depreciation ascertained by observation or inspection. An estimate of theoretical depreciation should properly include adequate allowance for obsolescence and inadequacy. Such estimates, however, must take into consideration a great many suppositions and hypotheses, based very largely on speculation and prophecy as to what may be expected in the future. Coal gas generating machinery has now been in use for approximately a century. Water gas generating apparatus was developed about

¹⁷ 1 N. J. B. P. U. C. 433, 15 A. T. & T. Co. Com. L. 354.

forty years ago. Coal gas machinery has been improved from time to time and made much more efficient, and later types have largely superseded those installed in earlier days. This is true, to a certain extent, of the water gas sets. Who can predict, however, the time when coal or water gas apparatus will be entirely superseded by some methods not yet invented, or even dreamed of? A correct allowance for depreciation, on the theoretical basis, must be sufficient to take care of obsolescence. Similar allowances must be made which will be sufficient to take care of plant retired because of inadequacy. Allowances for inadequacy involve, *inter alia*, an estimate of the growth in populations and communities served.

Depreciation by observation or inspection involves an estimate of the amounts required to place a given property in first-class operating condition, and even though a given plant may have been kept in such condition as to render entirely adequate service there is still some depreciation due to aging which is always existent, to a greater or less degree, in a property already in use.

In so far as physical property is concerned, it appears to be well settled that the proper valuation is the present value as obtained by deducting depreciation. We are confronted, however, with the contrasted methods of estimating depreciation referred to above, and we must decide whether theoretical depreciation or depreciation by inspection should be deducted. Undoubtedly an allowance for theoretical depreciation will much exceed the depreciation obtained in the other way. This leads us to an analysis of the history of the growth of public utility properties.

We believe that from this time forth allowance for depreciation should be made where possible, on the theoretical basis, but where depreciation has been charged off, the amount charged off appears to have been not theoretical depreciation, but merely amounts which would measure depreciation ascertained by inspection. We therefore conclude that we are on certain ground when the allowance for depreciation which is deducted from the cost to reproduce the property new is the amount representing the wear and tear and aging, and when we do not attempt to

estimate the greater amount which would allow for obsolescence and inadequacy

§ 1298. New York Appellate Division in Kings County Lighting case.

In the case of *Kings County Lighting Company v. Willcox*¹⁸ an order of the New York Public Service Commission for the First District fixing the gas rates of the Kings County Lighting Company was subjected to judicial review pursuant to a writ of certiorari.¹⁹ The Appellate Division of the Supreme Court reversed the determination of the Commission and remanded the matter to the Commission. The Appellate Division upheld the Commission's ruling that accrued depreciation should be deducted from cost-new in determining fair value. Judge Clark in delivering the opinion of the Court discusses this question as follows (at pages 610-612):

The commission said: "Cost-of-reproduction-new is not necessarily an indication of present value. Depreciation and deferred maintenance are important factors." It held that the proper method to ascertain the value of the tangible property was to take the amount obtained by subtracting from the cost of reproduction its accrued depreciation, and therefore from its estimate of reproduction-cost-new subtracted \$415,198 for depreciation.

The relator contends that this method is fundamentally unsound, that said sum should not be deducted, but that the true rule is that the company is entitled to earn a return on the full 100 per cent service of its investment. That the fair value for rate-making purposes is equal to the total cost of reproduction less scrap value, without any deduction whatever for accrued depreciation. That, therefore, the commission's total valuation is in error to the extent of the difference between said

¹⁸ 156 App. Div. N. Y. 603, May 9, 1913.

¹⁹ For the order and opinion of the Commission see 2 P. S. C. 1st D. (N. Y.) 659, 714.

amount and Mr. Connette's total of scrap value, \$183,150, or making in round numbers an amount of \$230,000 which would be added to the total valuation.

Mr. Mathewson as *amicus curiæ* files an interesting brief presenting an elaborate argument in support of the proposition that as it is conceded that the plant of the relator operates at 100 per cent of efficiency there should be no deduction for so-called "accrued depreciation." This term is used to designate, somewhat inartificially, the liability presently accrued toward the ultimate cost of replacement of still efficient apparatus. He therefore repudiates the concession to scrap value and claims that as the company, being a public service corporation, must always keep its plant up to efficiency and must replace property when worn out, it is entitled to a rate based upon 100 per cent efficiency because it will never be allowed to capitalize replacement, but must provide it when necessary. It therefore must be allowed to provide a replacement fund out of its earnings. He argues that it makes no difference to the consumer whether that fund is actually accumulated and on hand or not, because the replacement must be made, if there is such a fund, from it; if not, by the stockholders directly. If, on the other hand, the valuation of the tangibles is reduced by a percentage, in this case 21+ per cent, it can never be provided for in the only proper way—out of earnings.

We are unable to adopt Mr. Mathewson's interesting theories for these reasons.

1. It seems to be thoroughly established that the value of the tangible property upon which the company is entitled to a rate which will procure a fair and just return is the present value—that is, at the time of the appraisalment for rate-making purposes.

2. That in the absence of accurate evidence as to actual value the cost-of-reproduction-new takes the place thereof.

3. That, as the property being valued is not new, in order that "cost-of-reproduction-new" may represent the actual condition—the amount presently invested—there must be a deduction therefrom.

4. That this represents the amount required to replace ap-

paratus still in use, but in process of wearing out, at the end of useful service.

5. That this allowance for depreciation has been made in various kinds of cases where present value is required to be estimated.

Judge Clark then cites numerous cases upholding the deduction of accrued depreciation, and quotes at length from *Knoxville v. Knoxville Water Company*, 212 U. S. 1. He then says (at page 616):

This quotation completely answers the contention on the part of the relator that no allowance should be made for depreciation, because the evidence is that the efficiency of the relator's plant continued to be equal to 100 per cent; since it is manifest that deterioration to some extent must precede the loss of efficiency, and the mere fact that the efficiency remains stable does not necessarily contravene the other fact that deterioration has set in.

As to the company's contention that the Commission had fixed the deduction for accrued depreciation on the straight-line basis, but had determined the annual depreciation allowance on the sinking-fund basis, Judge Clark says (at pages 616-617):

In the case at bar the Commission followed the rule laid down by the Court of Appeals in *Peo. ex rel. Manhattan Ry. Co. v. Woodbury*, *supra*, as to the method of estimating the depreciation and the rule indicated by the *Knoxville* case of deducting the thus-ascertained amount of accrued depreciation from the cost-of-reproduction-new, to ascertain the present value of the tangibles in use. We think this entirely proper, especially in view of the fact that it allowed depreciation in land values. If, in addition, there should be allowed, as we have indicated, an additional amount as for going concern and an additional amount for the cost of repaving under the present paved streets, we think that the relator will have been fairly treated.

§ 1299. New York Commission, Second District.

In *Buffalo Gas Company v. City of Buffalo*²⁰ the company asked the New York Public Service Commission for the Second District to fix a rate for gas supplied to the city of Buffalo. In this case the Commission felt that there was not sufficient evidence upon which to base a determination as to what deduction, if any, should be made for accrued depreciation. Chairman Stevens says (at page 652):

If the cost-of-reproduction-new were to be taken as the basis upon which the rate is to be computed, we would likely be compelled to deduct therefrom the accrued depreciation in obedience to the rule laid down by the United States Supreme Court in *Knoxville v. Knoxville Water Company* (212 U. S. 1.), whether we considered that rule economically sound or otherwise. The uncertainties in this case as to original cost and cost-of-reproduction-new, as well as to the actual condition of the physical property, make a discussion of the proper handling of depreciation in a rate case entirely academic. It is clear that the treatment of depreciation in any given case depends upon facts which are not clear in this case, and to lay down principles which can not be applied would serve no useful end. Our views on this important question which was much discussed during the hearings will be more appropriate in other cases before us in which the facts are more clearly ascertainable.

The Commission, however, used certain figures based on cost-of-reproduction-less-depreciation to illustrate the effect of the proposed rate. In such illustration the deduction for accrued depreciation varies from 10 to 30 per cent on the various items of depreciable property (pages 653-654).

*Fuhrmann v. Cataract Power and Conduit Company*²¹

²⁰ 3 P. S. C. 2d D. (N. Y.) 553, 23 A. T. & T. Co. Com. L. 244, February 4, 1913.

²¹ 3 P. S. C. 2d D. (N. Y.) 656, 18 A. T. & T. Co. Com. L. 1015, April 2, 1913.

is a case involving a valuation for rate purposes. Chairman Stevens in delivering the opinion of the Commission in this case discusses the question of depreciation at considerable length. He comes to the conclusion that whether in a particular case there should be a deduction for accrued depreciation depends upon the method which the company has followed in the past in allowing for depreciation. If the company has allowed for depreciation on the straight-line method, a certain portion of the investment has been returned to the owners and consequently there should be a deduction of accrued depreciation in determining value for rate purposes. If, however, the allowance for depreciation has been made by the sinking-fund method, there has been no return of capital to the owners and consequently there should be no deduction on account of accrued depreciation in determining fair value. Chairman Stevens says (at page 723): "Upon this assumption it is absolutely just to the public and to the company to compute the annual return for the use of capital upon the basis of the investment, and so long as the company continues to give good service it will be entitled to an annual return upon that amount, because that is what it has in the business."

§ 1300. St. Louis Commission—Accrued depreciation should not be deducted.

In its report on the Southwestern Telegraph and Telephone Company ²² the St. Louis Public Service Commission considers the valuation of a telephone plant for rate purposes. In regard to deduction of accrued depreciation the Commission says (at pages 20–22):

The fallacy of depreciating from cost (either original or re-

²² Report of St. Louis Public Service Commission to the Municipal Assembly of St. Louis on the Southwestern Telegraph and Telephone Company, October 14, 1913.

production) in such a manner as to assure reasonable returns on a so-called value calculated only on the estimated remainder of life of equipment seems to be based upon a confused idea that an "exchange or sale value" is attainable on equipment in a rate case. As has been stated in other parts of this report, the "exchange or sale value" of equipment (except scrap or second-hand value) when once installed depends upon and is inseparable from the earning power. The regulation of the earning power is the object of the investigation, and therefore the exchange or sale value of the equipment as a whole can not be known until the proper earnings are determined.

The aim of regulation should be protection of the consumer and just treatment of the investor. If the investors have placed a certain amount of money in an equipment in the service of the public and are maintaining and are obliged to maintain said equipment at the highest efficiency and are renewing all worn or obsolete parts as soon as they become unfit for service, it would seem that they are performing their full duty to the public and should be allowed to earn returns on the amount invested in the public service for the equipment in the service of the public unless it can be shown conclusively that the public have paid them back a part of their investment in the shape of clearly defined depreciation charges. Where there has been no regulation in the past and where it can be shown that there was no necessity of establishing a depreciation fund equal to the consumption of estimated life of each item of equipment (see Appendix D, page 122), deduction for theoretical depreciation in a rate case involving a large "piecemeal" built property in a normal and efficient state becomes in fact merely a confiscation of past profits.

It is shown in Appendix D that after attaining its normal state a large utility will need its full depreciation charges which theoretically at least will not remain long unused, on account of the constant and steady demand for renewals. Depreciation on account of the element of obsolescence is a somewhat unknowable quantity and it will probably prove good policy to allow a certain amount to accumulate in the depreciation fund to take care of the unforeseen, but in a large property it can

hardly be contended that this fund should equal the composite difference between 100 per cent and the estimated composite remainder of life.

It should be well understood, however, that where a stated depreciation charge is established by law or legal regulation, and where such charge accumulates, the amount of this accumulation (the depreciation reserve fund) should be treated as in a sense the property of the consumer. It may be permitted that the company use the fund in certain ways, but it should not be treated as a part of the capital of the company. In fact the depreciation charge is paid by the consumer for a specific purpose, *i. e.*, to keep the property intact and efficient. When not in use for that purpose it is a trust fund handled for the public by the company.

This reasoning, however, does not apply to the past where there was no need for a fund and no well-defined legal limits to profit. (See Appendix D.)

§ 1301. Washington Commission.

In *Re Valuation of Exchange Plant in Spokane*²³ the Washington Public Service Commission determines the value of a telephone exchange under the general terms of the Washington statute, and without specific reference to a particular purpose to be served by the valuation. The Commission's finding in regard to accrued depreciation is based on an estimate of the life and age of the various units and the application of a 4 per cent sinking-fund method. The finding is as follows (at page 900):

The Commission finds that the composite average age of the property is 5.3 years; that the average useful life of said property is 19.35 years; that, in order to maintain its investment intact, the respondent company must set aside an annuity which computed under the 4 per cent sinking-fund method amounts to 3.19 per cent; that therefore the property of the

²³ In *Re Valuation of Exchange Plant in Spokane of the Pacific Telephone and Telegraph Company*, 25 A. T. & T. Co. Com. L. 892, November 1, 1913, Washington Public Service Commission.

defendant company is in, approximately, an 81.505 per cent new physical condition; that, by applying this last-named percentage to the reproduction cost, viz, \$2,905,100, the Commission finds the cost of reproducing the property of the defendant company in its present physical condition to be \$2,367,800.

This last-named amount is sometimes designated as the "depreciated value" of a property and sometimes as the "cost-of-reproduction-new-less-depreciation."

§ 1302. Wisconsin Commission—Depreciation reserve.

The case of *City of Milwaukee v. The Milwaukee Electric Railway and Light Company*²⁴ involves the valuation of a street railway for rate purposes. The Commission issued an order slightly reducing the existing rates of charge. In this case the Commission found that the difference between cost-of-reproduction-new and the cost-of-reproduction-less-depreciation had largely been offset "by a depreciation fund which is partly covered by securities and partly by property, and which goes with the property and plant" (page 159). To the extent that accrued depreciation was thus offset the Commission apparently made no deduction from cost-new in determining fair value. The city had contended that only the net investment of the company was entitled to a return. To the extent that the depreciation reserve was actually invested in plant the capital requirements of the company were reduced. The Commission rejects this contention (at page 104):

It appears to be the contention of the city's brief that only the net investment in the property is the basis upon which the company is entitled to a fair return. All charges to depreciation and operation, while resulting in a net addition to property, are not construed as adding to the investment. The appreciation of land values, upon the other hand, is added to the investment, but made a deduction from the annual depreciation accrued.

²⁴ 11 W. R. C. R. 1, 14 A. T. & T. Co. Com. L. 197, August 23, 1912.

It is difficult to see upon what basis additions to property through operation or depreciation reserves should not be construed as a part of the investment value. Extensions must be financed either through additional capital or through surplus earnings, and the fact that the company has conservatively waived its additional dividend and placed its earnings into the plant can not be made the ground upon which future dividends are to be curtailed.

*Superior Commercial Club v. Duluth Street Railway Company*²⁵ involves the valuation of a street railway for rate purposes by the Wisconsin Railroad Commission. The Commission found that the cost-of-reproduction-new of the physical property was \$717,538, and that such cost-less-depreciation was \$487,236. The company carried a depreciation reserve, amounting to \$95,361. This reserve appears to have been invested in the plant and working capital, as the balance sheet does not disclose outside investments. The Commission held that the depreciation reserve should be added to the cost-of-reproduction-less-depreciation in determining fair value for rate purposes. The Commission says (at page 21):

An examination of respondent's depreciation reserve for the Superior division shows that \$34,658.18 has been charged to the reserve as actual renewals, while \$130,020.05 has been set aside through a charge to operating expenses, leaving a balance, as shown by the reserve, of \$95,361.87. As under normal conditions investors are entitled to have their property or investment kept intact, it follows that the amounts which have been properly set aside for such purposes, or for depreciation in accordance with the provisions of the law and the rules of the Commission, should in the instant case be included in the amount upon which returns are allowed. On the other hand, amounts earned for depreciation but withdrawn or used for other purposes than provided by law should not be so included.

²⁵ 12 W. R. C. R. 1, November 13, 1912.

CHAPTER XIX

Functional Depreciation

§ 1310. Cost of supersession an operating expense—United States Commerce Court and Supreme Court.

1311. Obsolete type of machine—Wisconsin Commission.

TREATMENT OF SUPERSEDED PROPERTY IN RATE CASES

1312. Arizona Commission.

1313. California Commission.

1314. Nebraska Commission.

1315. Wisconsin Commission.

§ 1310. Cost of supersession an operating expense—United States Commerce Court and Supreme Court.

Kansas City Southern Railway Company *v.* United States,¹ decided April 21, 1913, is a petition for the annulment of certain parts of orders of the Interstate Commerce Commission establishing a uniform system of accounts for steam railroads. The complaint was based in part on the following facts: The railroad extending from Kansas City, Missouri, to Port Arthur, Texas, was originally constructed with a ruling maximum grade of 1 per cent to 1.35 per cent. It was decided to revise the grade to a maximum of $\frac{1}{2}$ per cent. It was estimated that the desired gradient could be secured by an expenditure of \$1,230,318 upon the original roadbed, but that the same result could be accomplished by means of relocations of portions of the line at an expenditure of \$629,399. The method of relocation was accordingly followed. Under the accounting rules of the Interstate Commerce Commission it is provided that where a portion of a railroad

¹ 204 Fed. 641.

is abandoned, being replaced by a new railroad in a different location, the cost or estimated replacement value of the abandoned railroad less salvage shall be deducted from the cost of the new work and the balance charged to the property account; and that the cost or value less salvage of the abandoned property shall be charged to operating expenses; provided that if the amount of the charge to operating expenses warrants a distribution of the loss over a series of years in the future the total amount may be charged into an account designated "Property abandoned account" during a term of years previously approved by the Commission. In this case the estimated cost of replacing the abandoned portion of the road was \$482,953. The salvage amounted to \$96,469. Under the above rule of the Commission the difference, \$386,484, would be charged to current expenses and operation and only \$242,915 to additions and betterments. The petitioner claimed that such a rule was unreasonable and beyond the power of the Commission and that its enforcement would deprive the petitioner of its property without due process of law. The Commerce Court dismissed the petition. Judge Carland in delivering the opinion of the court says (at pages 643-645):

It is evident that the object which the Commission had in view in making the classification of expenditures for additions and betterments was to cause the property account of any railroad to show only the property it had in use and to eliminate therefrom all property which had been abandoned. It is also evident that the underlying basis for the contention of petitioner is that it desires to retain in its property account the replacement value, less salvage, of the pieces of road abandoned. It sufficiently appears in the record that what are known as the strong roads financially do not object to the classification of the Commission, for they are quite willing to charge the replacement cost of property abandoned against current operating expenses,

as they have the right to earn operating expenses without question. On the other hand, roads that are less strong financially, among which petitioner classes itself, desire to keep the property account as large as possible because it is a material asset upon which to maintain credit. . . . The charge that the making of the orders was an arbitrary exercise of power is based upon the claim that upon no theory of correct accounting can the Commission require petitioner to deduct from the cost of additions and betterments the value or estimated value, less salvage, of property abandoned and to charge the value or estimated value, less salvage, of the property abandoned to operating expenses.

We are not at liberty to invalidate the orders of the Commission on this ground, for there is abundant evidence in the record that the method required by the orders of the Commission is a correct and proper one. The testimony is conflicting, but Messrs. Farrington, Bailey, and Adams, gentlemen of high repute in the profession of accounting, testified unqualifiedly that the method adopted by the Commission was a correct and proper one. In addition to this expert testimony is the authority of Mr. Robert H. Montgomery, author of the work "Auditing—Theory and Practice," page 319; also Whitten on "Valuation of Public Service Corporations," chap. 19, sec. 450 *et seq.*

On appeal the United States Supreme Court very clearly holds that the cost of supersession is not a proper capital charge, but is an operating expense. Justice Pitney says (at pages 444–449):²

The present attack upon the classification as adopted is, and must be, rested at bottom upon the contention that the regulations embodied in it are so entirely at odds with fundamental principles of correct accounting as intrinsically to manifest an abuse of power.

There is evidence in the record that substantially the same method of distributing charges for so-called "Additions and Betterments" between the Property Accounts and the Operating

² 231 U. S. 423, December 1, 1913.

Accounts is and has long been pursued by important railroad carriers, and has received the sanction of at least one recent text-book writer—Whitten, "Valuation of Public Service Corporations," secs. 450, 451, 458, etc. Nevertheless, it is insisted with emphasis that property abandoned as an incident to permanent improvements is not an operating expense, and, in effect, that no matter what practice may be pursued by railroad accounting officers, it can not properly be treated as such.

We are thus brought back to the fundamental distinction between (a) the property or capital accounts, designed to represent the investment of the stockholders, and to show the cost of the property as originally acquired, with subsequent additions and improvements; these assets being balanced by the liabilities, including the amount of the capital stock and of bonded and other indebtedness, with net profits or surplus, whether carried under the head of "profit and loss" or otherwise; and (b) the operating accounts, designed to show, on the one side, gross receipts or gross earnings for the year, and on the other side, the expenditures involved in producing those gross earnings and in maintaining the property, the balance being the net earnings.

Since the regulation of the railroad carrier by the public authority, and especially the fixing of the rates to be charged, depend primarily upon two fundamental considerations, (a) the value of the property that is employed in the public service, and (b) the current cost of carrying on that service, it is clear that the maintenance of a proper line of distinction between property accounts and operating accounts is essential to the execution by the Interstate Commerce Commission of the supervisory and regulatory powers conferred upon it by Congress.

Appellant contends, *inter alia*, that since the original locations were necessary in the development of its railroad line, and were abandoned only as an incident to the improvement and development of the property, the cost thereof, being as it is termed a part of the "cost of progress," should remain in the property account, as representing a part of the stockholders' present investment.

Support for this contention is sought in previous decisions of this court. In *Union Pacific R. Co. v. United States*, 99 U. S.

402, a decision that turned upon the meaning and effect of an act of 1862 for aiding the construction of the railroad (12 Stat. 489), it was said, at p. 420: "As a general proposition, net earnings are the excess of the gross earnings over the expenditures defrayed in producing them, aside from, and exclusive of, the expenditure of capital laid out in constructing and equipping the works themselves. It may often be difficult to draw a precise line between expenditures for construction and the ordinary expenses incident to operating and maintaining the road and works of a railroad company. Theoretically, the expenses chargeable to earnings include the general expenses of keeping up the organization of the company, and all expenses incurred in operating the works and keeping them in good condition and repair; whilst expenses chargeable to capital include those which are incurred in the original construction of the works, and in the subsequent enlargement and improvement thereof." In *Illinois Central R. R. v. Interstate Commerce Commission*, 206 U. S. 441, the Commission had held (206 U. S. 449; 10 I. C. C. 544) that while repairs were properly chargeable to current operating expenses, yet expenditures for improvements and equipment "should not be taxed as part of the current or operating expenses of a single year, but should be so far as practicable and so far as rates exacted from the public are concerned, projected proportionately over the future." And in this court it was said (p. 462): "It would seem as if expenditures for additions to construction and equipment, as expenditures for original construction and equipment, should be reimbursed by all of the traffic they accommodate during the period of their duration, and that improvements that will last many years should not be charged wholly against the revenue of a single year." And, after pointing out that the case of the *Union Pacific Railway Company* in 99 U. S. had to do not with rates of transportation or the like, but with the construction of the words "net earnings" in an act of Congress, the court, in pointing out the difference between the position of the Government in that case and the position of a shipper of commodities in the case *sub judice*, said, with respect to the latter (p. 463): "His right is immediate. He may demand a service. He must pay a toll, but a toll meas-

ured by the reasonable value of the service. The elements of that value may be many and complex, not always determinable, as we have seen, with mathematical accuracy, but, we think, it is clear that instrumentalities which are to be used for years should not be paid for by the revenues of a day or year; and this is the principle of returns upon capital which exists in durable shape."

The expressions quoted were properly employed with respect to the questions then presented for decision. As expressions of the general principle, we see no occasion now to qualify them. In both cases it was recognized that in so complicated a matter as the construction, maintenance, and operation of a railroad line it is difficult to define and perhaps more difficult to consistently apply a precise distinction between capital and expense accounts; and while the propriety of distributing improvement costs over a series of years was recognized, the impossibility of scientific accuracy in that regard was acknowledged. The question now is, whether the regulations of the Commission under attack do violence to these general principles—rather, it is whether those regulations are so clearly contrary to these and other applicable principles that they should be set aside as being in excess of the powers conferred by Congress upon the Commission.

We are unable to see that there is substantial inconsistency with principle, much less gross violation thereof. The contention of the appellant that property, originally acquired because necessary in the construction of the road, and afterward abandoned only because rendered unnecessary by the improvement and development of the property, should remain in the property account as a part of the stockholders' investment, will be found, upon analysis, to rest upon the unwarrantable assumption that all capital expenditures result in permanent accretions to the property of the company. This in effect ignores depreciation—an inevitable fact which no system of accounts can properly ignore. A more complete depreciation than that which is represented by a part of the original plant that through destruction or obsolescence has actually perished as useful property it would be difficult to imagine. The fact that the

original investment was necessary in order that the second investment might be made is not a conclusive test. Reference is made to the cost of the scaffolding used in the erection of a house, and discarded when the house is completed; and to the cost of the paper that goes to the waste-basket, rather than to the printer, in the preparation of a literary composition; but these are fanciful analogies, and do not assist us here, where the real question is not how shall original cost be ascertained, but, how shall subsequent depreciation in value be reckoned and accounted for?

In *Knoxville v. Water Co.*, 212 U. S. 1, this court had to do with a similar element of depreciation, and, after pointing out that such a plant as was there in question begins to depreciate in value from the moment of its use, and that before coming to the question of profit at all the company was entitled to earn a sufficient sum annually to provide not only for current repairs but for making good the depreciation and replacing the parts of the property when they should come to the end of their life, the court proceeded to say (p. 14): "If, however, a company fails to perform this plain duty and to exact sufficient returns to keep the investment unimpaired, whether this is the result of unwarranted dividends upon over-issues of securities or of omission to exact proper prices for the output, the fault is its own. When, therefore, a public regulation of its prices comes under question, the true value of the property then employed for the purpose of earning a return can not be enhanced by a consideration of the errors in management which have been committed in the past."

And since one of the manifest objects of Congress in authorizing the supervision and standardization of carriers' accounts, as is done in sec. 20 of the Interstate Commerce Act, was to enable the Commissioners to intelligently perform their duties respecting the regulation of carriers' rates for the services performed, and since it is settled that the property investment which is to be taken into consideration as one of the elements in fixing such rates is the property then in use (*Smyth v. Ames*, 169 U. S. 466, 546; *San Diego Land & Town Co. v. National City*, 174 U. S. 739, 757; *San Diego Land & Town Co. v. Jasper*,

189 U. S. 439, 442; *Willcox v. Consolidated Gas Co.*, 212 U. S. 19, 41; *Minnesota Rate Cases*, 230 U. S. 352, 434, 454, 458), it is obvious that so far as the regulations of the Commission now under consideration discard the "cost of progress" theory, they need no further vindication.

§ 1311. Obsolete type of machine—Wisconsin Commission.

Re *Manitowoc Electric Light Company*³ involves the valuation of an electric plant by the Wisconsin Railroad Commission for purposes of municipal purchase. A question arose as to the valuation of certain generators which, though still in operation, were of an obsolete type no longer on the market. The Commission held that such machines if still used and rendering fair service, though not of high efficiency, should be valued at something above scrap value. The Commission says (at pages 687–688):

The city contends that the six Edison bipolar generators, which the staff placed at \$5500 cost-new and \$1404 present value, are valued too high, because they have been in service over twenty years and are obsolete. Mr. Martin made the point that the cost of reproduction of machines that are obsolete and no longer on the market should be taken as the cost-new of modern up-to-date machines. Accordingly he places the cost-new of these particular machines at \$2400, which is less than one-half the figure used by the staff. He further holds that these generators have reached such a state of inefficiency through depreciation and obsolescence that their use should be discontinued; and that consequently their present value is only so much as can be gotten for them as scrap. This amount he places at \$280, which is exactly one-half of the scrap value found by the staff.

On obtaining the cost of reproducing equipment that is no longer on the market it would seem that the contention of the city should be given consideration. The present value, however,

³ 28 A. T. & T. Co. Com. L. 679, January 2, 1914, Wisconsin Railroad Commission.

of such equipment, if it is still used and is rendering fair service though not of high efficiency, would seem to be something above scrap value. The mere fact that a machine has been in operation over twenty years is not necessarily a sign that it has no value greater than what can be gotten for it as junk to the plant that is using it. In the instant case the staff has estimated that two of these generators are in 20 per cent and four in 15 per cent condition. Accepting this estimate as a basis and computing the present value from the cost of reproduction of machines of equal efficiency on the market at the present time, we get a present value of about one-half that used by the staff, which under the circumstances of this case would seem to be reasonable.

TREATMENT OF SUPERSEDED PROPERTY IN RATE CASES

§ 1312. Arizona Commission.

*Huffman v. Tucson Gas, Electric Light and Power Company*⁴ involves the valuation of a gas and electric plant for rate purposes by the Arizona Corporation Commission. In refusing allowance for certain superseded property the Commission says (at page 752):

The Commission investigated this matter with particular care, in view of its effect upon the claim of the respondent, and we are of the opinion that these losses should have been written off by the respondent during past years and we believe that no allowance of value for such items should be made for rate-making purposes.

§ 1313. California Commission.

*Solari v. Tuolumne County Electric Power and Light Company*⁵ involves the valuation of an electric plant for rate purposes by the California Railroad Commission. The company claimed that the Stanislaus River line was

⁴ 21 A. T. & T. Com. L. 725, July 9, 1913, Arizona Corporation Commission.

⁵ 3 Cal. C. R. C. —, 22 A. T. & T. Co. Com. L. 1045, July 29, 1913, California Railroad Commission.

used as an emergency source of supply, but the Commission held that the possibility of its use was too remote to justify its continued inclusion in capital account. The Commission therefore excluded the item from the valuation, but permitted an annual operating charge sufficient to amortize the value of the line within a period of ten years. The Commission says (at pages 1051-1052):

As has hereinbefore been stated, the Stanislaus River line has not been used by defendant since it began to receive its electric energy from the Sierra and San Francisco Power Company. The testimony shows that while defendant maintains this line as an emergency source of supply, it will not have to rely on the line unless both the hydroelectric operations of the Sierra and San Francisco Power Company above Sonora and its steam plant in San Francisco should become unavailable at the same time. These two conditions have not as yet occurred and the possibility of their doing so seems entirely too remote to justify the continued inclusion of this line in capital account on which the defendant may justly claim to be entitled to a fair and reasonable return. It seems fair, however, to permit the defendant during each of the ensuing ten years to collect rates high enough to permit it to charge off such sum on its books that by the end of the ten years the principal so charged off, together with the interest, shall have amounted to the entire value of the line at the present time. I believe that it will be very liberal on the part of rate-fixing authorities to permit this to be done.

§ 1314. Nebraska Commission.

Re Application of Lincoln Telephone and Telegraph Company for authority to increase rates⁶ involves the valuation of a telephone plant for rate purposes by the Nebraska State Railway Commission. The application followed a consolidation of automatic and manual plants.

⁶ 19 A. T. & T. Co. Com. L. 134, June 26, 1913, Nebraska State Railway Commission.

In estimating the reproduction-cost of the property the Commission eliminated all duplication of plant incident to such consolidation. The Commission says (at page 146):

Special attention is called to the fact that all values for old Nebraska Telephone Company's building, real estate, central office equipment and apparatus is completely eliminated in the valuation as submitted by the engineers, and the value finally adopted by the Commission includes only plant in actual service. . . .

Application of the Lincoln Telephone and Telegraph Company for authority to revise schedule of rates in Beatrice⁷ also involved a valuation of telephone property after consolidation of two exchanges. In determining fair value for rate purposes no allowance was made for duplicated or unnecessary property secured as a result of the consolidation.

§ 1315. Wisconsin Commission.

The case of *City of Milwaukee v. The Milwaukee Electric Railway and Light Company*⁸ involves the valuation of a street railway for rate purposes. The Commission issued an order slightly reducing the existing rates of charge. In estimating the cost of the plant and its business in 1897, thirteen years prior to the date of the inquiry, the Commission included in such cost value about \$1,000,000, due to almost revolutionary changes in the art and in methods of operation prior to that time. The Commission says (at page 91):

In this case the conditions are probably such that in the 1897 appraisal some consideration should also be given to the cost value of the property which, in changing the former method of operation, it was found necessary to discard and replace. Re-

⁷ 22 A. T. & T. Co. Com. L. 898, September 1, 1913.

11 W. R. C. R. 1, 14 A. T. & T. Co. Com. L. 197, August 23, 1912.

placements of this sort, which are due to almost revolutionary changes in the art and in methods of operation, are usually accompanied by greater waste and destruction of capital than can be covered by ordinary depreciation allowances. Such losses, however, are in the nature of depreciation and, like depreciation generally, must undoubtedly in the end be largely borne by the public. It is of course a fact that such losses are not always as serious as they may look, and this for the reason that they are usually accompanied by improvements which result in lower costs per unit of production.

CHAPTER XX

Annual Depreciation Allowance

- § 1320. Diversion of depreciation reserve—Chicago telephone appraisal.
- 1321. Investment of depreciation reserve.
- 1322. Interest on depreciation reserve—Federal Court in Alabama railroad rate case.

DECISIONS RELATIVE TO ANNUAL DEPRECIATION ALLOWANCE

- 1323. Arizona Commission—Electric plant.
- 1324. California Commission—Electric plant and telephone plant.
- 1325. Board of Railway Commissioners, Canada—Telephone plant.
- 1326. Commonwealth Edison Company, Chicago.
- 1327. Maryland Commission—Sinking fund.
- 1328. Nebraska Commission—Depreciation and maintenance of telephone plant.
- 1329. Nevada Commission—Life of mining camp.
- 1330. New Jersey Commission—Gas plant.
- 1331. New York Commission, Second District—Annual allowance for gas plant and amortization under limited-term franchise.
- 1332. Oklahoma Commission—Telephone plant—No allowance for certain property.
- 1333. Wisconsin Commission.
- 1334. Federal Court in Alabama railroad rate case.

- § 1320. Diversion of depreciation reserve—Chicago telephone appraisal.

In his report in regard to the rates of the Chicago Telephone Company ¹ Professor Bemis presents a financial history of the company and comments on the fact that the moneys set aside from earnings as a depreciation reserve, to the amount of over \$5,000,000, have been di-

¹ Report on the investigation of the Chicago Telephone Company submitted to the Committee on Gas, Oil and Electric Light, by Edward W. Bemis, October 25, 1912.

verted from the purpose intended to form a basis of stock dividends. He says (at pages 28–29):

The Chicago Telephone Company has collected from the subscriber and set aside as a depreciation reserve a further sum of \$5,091,823.19 to meet depreciation that may be revealed at some time in the future. Of this fund about \$2,241,141 was set aside in 1910 and 1911. This depreciation, assumed to exist after all current expenditures for repairs and renewals, may be called residual depreciation. The property of the company on January 1, 1912, had been built up from the following sources:

First mortgage 5% bonds...	\$5,000,000.00	
Loans by banks.....	1,000,000.00	
Capital stock.....	27,000,000.00	
	<hr/>	\$33,000,000.00
Depreciation reserve.....	\$5,091,823.19	
Insurance fund.....	307,548.21	
Other reserves.....	244,735.49	
	<hr/>	5,644,106.89
		<hr/>
		\$38,644,106.89

In addition to the above, current assets of cash, bills, accounts receivable and prepaid expenses amounted to \$1,690,067.42, but these were balanced by current liabilities of accounts payable and accrued liabilities not due, amounting to \$1,886,285.34. Leaving out of account these latter items of current assets and current liabilities, which virtually offset each other, there remains as just stated two chief sources of the property of the Telephone Company, to-wit: \$33,000,000 furnished by the stock and bond holders and banks, and about \$5,650,000 supplied by the telephone users, in order to keep the investment of the stock and bond holders intact.

The question will later arise whether the \$27,000,000 supplied by the stockholders came in part from earnings in addition to large dividends, but that problem does not arise at this point.

The depreciation reserve above referred to is not the only

amount that the company set up in the past as representing depreciation. From 1894 until 1907 the company, after distributing dividends of 10 per cent, had charged to operations \$3,767,233.55, which was written off the plant account. Early in 1908 the company appears to have concluded that the property had not depreciated to any such extent. The whole of this \$3,767,233.55 was transferred to surplus, leaving the plant account as it would have been without any such deduction. This credit to surplus formed the basis of the stock dividend of \$4,500,000 in that year. Not only was the above amount of \$3,767,233.55 charged to operations and maintenance, but it has been shown that an additional amount of \$1,575,000 was charged during the above period as maintenance, which likewise eventually found its way into the surplus. (Hall, page 20.) The total amount thus included in operations, purporting to represent a provision for depreciation, or for deferred maintenance, but which was diverted to the benefit of the stockholders, was therefore \$5,342,233.55. The dividends were indeed reduced in 1908 from 10 per cent to 8 per cent, so that the total dividends were not materially changed. But in so far as an 8 per cent dividend is less subject to public criticism and less liable to reduction in a change of rates than is a 10 per cent dividend, the stockholders gained.

In another way, they also gained. By writing up the plant investment several million dollars the justification for the increase of stock and for a profitable return thereon was given to the public.

The important feature of the transaction was the revelation that the company considered that there had been less depreciation by \$4,845,000 than the books have hitherto shown. Consequently the telephone users, in paying such charges as to permit the accumulation of that fund, in reality had not been accumulating a fund with which to meet depreciation, but had been increasing the profits of the company, which the latter had invested as surplus in extension and then capitalized.

Naturally, such a transaction makes one a little critical with regard to the new accumulation of \$4,971,823.19 in one depreciation account and of \$120,000 in another.

§ 1321. Investment of depreciation reserve.

Re Application of Lincoln Telephone and Telegraph Company ² for authority to increase rates involves the valuation of a telephone plant for rate purposes by the Nebraska State Railway Commission. The Commission's discussion of the treatment of depreciation reserve indicates the Commission's opinion that moneys in the depreciation reserve should be carefully conserved for the ultimate benefit of the public. Such money until needed for replacements should be used so far as possible for extensions and betterments of plant. The Commission points out that the use of the depreciation reserve in this way will in time result in a reduction of the investment, or, in the annual allowance set aside for depreciation, and will thus eventually benefit the public by permitting a reduction in rates. The Commission says (at page 152):

It will also be the policy of the Commission to expect of the corporation that it shall, so far as possible, use the depreciation reserve funds, not needed for replacements in the immediate future, in making extensions and betterments of the plant. Such part of the plant as is represented by the investment from depreciation reserve shall be permitted to earn the same ratio of return as the stockholders' investment, but neither such reserve fund nor the earnings therefrom shall be available as dividends to stockholders, or for any other purposes than those set out. When funds are needed, properly chargeable to the depreciation reserve, for replacements, which had theretofore been invested in extensions of plant, then such extensions must at that time be capitalized and the proceeds of the capitalization made available for the legitimate purposes of the depreciation reserve fund.

The use of the depreciation reserve fund in the manner above indicated will in time, when the depreciation reserve fund may have reached a fair proportion, possibly permit a reduction in

² 19 A. T. & T. Co. Com. L. 134, June 26, 1913, Nebraska State Railway Commission.

the principal sum or percentage to be set aside annually for depreciation reserve, and will thus work toward the reduction of charge against operating revenues, eventually benefiting the public by permitting corresponding reduction in rates.

*San José v. The Pacific Telephone and Telegraph Company*³ involves the valuation of a telephone plant for rate purposes by the California Railroad Commission. Commissioner Eshleman refers to the practice of the company of using its depreciation reserve for extensions of plant. He raises the question as to whether this may not result in requiring the public to pay a return on depreciation reserves furnished by the consumers in the rate of charge paid. He says (at page 384):

On the other hand, it is likewise in evidence that the extensions of this company are regularly being produced from this depreciation fund. To be sure, it is urged that this is a mere loan from the depreciation fund to the capital account for new construction, but the condition developed here is one which must be watched very carefully, else it will bring about a condition wherein the property, in extensions of this company, will be produced from the rates, a consummation devoutly to be wished from the standpoint of many utility men and seriously urged by some as justifiable. I have no hesitancy, however, in saying that it seems to me fundamental that no such use of depreciation funds should be permitted, unless the funds used in such capital expenditures are carefully accounted for and scrupulously returned to the proper fund. I am disposed to be careful in the handling of this depreciation matter. I believe it is very advisable both from the standpoint of the public and the utility that a proper and adequate depreciation fund be established annually, but of course this depreciation fund should be used for the purposes which give warrant for its collection and not to produce more property upon which an earning will be asked.

³ 3 Cal. R. C. —, 24 A. T. & T. Co. Com. L. 370, October 9, 1913, California Railroad Commission.

§ 1322. Interest on depreciation reserve—Federal Court in Alabama railroad rate case.

In *Louisville and Nashville Railroad Company v. Railroad Commission of Alabama* ⁴ the special master rejects the contention that in determining current income interest should be allowed on the balance in the replacement account. The special master discusses this question as follows (at pages 159–160):

I have quoted above page 1796 of the record in this case showing a statement of the disposition of the whole depreciation charges.

The defendants further insist that interest should be allowed on the balance in replacement account.

It is a mistake to suppose that such a charge is proper. At pages 1715–1722 *et seq.* is a full and clear statement of the account No. 51 “Steam Locomotive Renewals,” and of the replacement account, the former being merely an adjustment account to take care of errors of estimate for the latter. And the nature of the latter is fully explained.

The capital of a railroad bears no interest—it is employed and used by the management for the net earnings of operations after paying all expenses, including taxes and depreciation reserves or charges. As the use is made or enjoyed of capital, the value is currently lost or expended by visible and invisible or latent depreciation and, by the law of proper adjustment, operating expenses are currently taxed for the estimated per cent to cover depreciation, which is passed to credit of replacement account, and there stands a liability of the management until balanced off through renewal account, as explained on page 1715 of the record.

The capital did not bear interest and, of course, the depreciation reserve appearing in replacement account being the pecuniary substitute for expended capital until it is paid out in renewals and assumes the form of structures and equipment, as the case may be, bears no interest. In a large system of

⁴ U. S. Circuit Court, Middle District of Alabama, Report of William A. Gunter, Special Master in Chancery, 1911.

constant equipment and structures that is not increasing, changing or decreasing its operation or equipment, the replacement account balance would be offset by the renewal charge against it, unless there was error in estimates.

But however that may be, the management is entitled to the whole capital at 100 per cent of value without interest and the (apparent) replacement balances at any moment stand precisely as a part of the capital—that is, as value expended by use and replaced by depreciation assessments in transit for renewal investment.

At page 1722 of the record there is a full explanation showing the different theories upon which depreciation charges for replacement account are made—and though interest is charged in one system, viz, the “English annuity,” it is shown that by every system the charges are intended to bring about the same result, and that the English system and “sinking-fund” method have each been discarded, and that the “fixed-proportion” method adopted by complainant on which depreciation is assessed each year in equal percentages based on original cost is the only proper plan and is the one required by the Interstate Commerce Commission.

Interest is not charged nor is it chargeable. If it was charged, what fund would pay it? Plainly, operating expenses. And operating expenses would not be benefited by a charge and credit which balanced.

But as pointed out in argument, the net results of operation, including operating expenses, are in this instance allowed credit for interest on depreciation, because the full amount of accrued depreciation is deducted from the value of property on which return is claimed.

DECISIONS RELATIVE TO ANNUAL DEPRECIATION ALLOWANCE

§ 1323. Arizona Commission—Electric plant.

Huffman v. Tucson Gas, Electric Light and Power Company ⁵ involves the valuation of a gas and electric

⁵ 21 A. T. & T. Co. Com. L. 725, July 9, 1913, Arizona Corporation Commission.

plant for rate purposes by the Arizona Corporation Commission. In regard to the annual allowance for depreciation the Commission says (at page 746):

The engineers for the Commission and engineers for respondent agreed upon accumulated depreciation, which was found to be approximately 3 per cent per annum on depreciable property.

Upon full consideration of the facts before us we are of the opinion that $3\frac{1}{2}$ per cent should be allowed annually upon the depreciable property of respondent.

This Commission will soon promulgate accounting rules for companies of this kind, wherein provisions will be made for the proper handling of depreciative reserve.

§ 1324. California Commission—Electric plant and telephone plant.

Solari v. Tuolumne County Electric Power and Light Company ⁶ involves the valuation of an electric plant for rate purposes by the California Railroad Commission. The company's statement claimed no allowance for depreciation except in so far as it may have been covered by the item of maintenance and repairs. The Commission, however, considered that it would be fair to allow the company 3 per cent on the value of the property to cover depreciation.

San José v. The Pacific Telephone and Telegraph Company ⁷ involves the valuation of a telephone plant for rate purposes. The company asked for a depreciation allowance of 6.5 per cent. The Commission allowed but 5.5 per cent. Commissioner Eshleman discusses this subject as follows (at pages 383–385):

Both the engineer and auditor of the Commission are of the opinion that 6.5 per cent set aside annually for depreciation

⁶ 3 Cal. R. C. —, 22 A. T. & T. Co. Com. L. 1045, July 29, 1913, California Railroad Commission.

⁷ 3 Cal. R. C. —, 24 A. T. & T. Co. Com. L. 370, October 9, 1913, California Railroad Commission.

is excessive. It is in evidence that within a very few years an amount has been produced from the 6.5 per cent depreciation fund which shows that the percentage is excessive. The witnesses reach this conclusion by the following method of reasoning: As already pointed out herein, the amount in the depreciation fund should in a matured utility be sufficient to cover the amount represented by depreciation which is not taken care of annually. It is a well-known fact that in a going utility after a certain amount of depreciation has taken place the percentage does not increase. It is testified that in the telephone plant ordinarily the plant as it stands represents about 85 per cent of its cost-new. Therefore in a matured telephone plant the depreciation fund should always represent 15 per cent of the total amount properly chargeable to capital account. The auditor of the Commission points out that 15 per cent has been produced from the 6.5 per cent annual depreciation within a very few years. I assume it will be agreed that the constant sum required to take care of depreciation should not be produced in one or two years because such a procedure would lay an unwarranted burden upon the rate payers who were patrons of the utility during such time. Here again the exact period over which this depreciation should be ordinarily created is hard to determine, but the evidence in this case shows that if depreciation does not take place at a greater rate than it has during the time within which this depreciation fund has been set up the rate is too high. This is admitted by the representatives of the company. They urge, however, that within a very few years the property of the defendant in this state has been doubled and that from the nature of things the percentage of depreciation in this new property does not represent the average per cent of depreciation which will be necessary to be provided against, and that when the property has reached an age which may be called its average age the 6.5 per cent will be found not to be excessive. . . .

The company urges that in other states larger amounts than 6.5 per cent have been allowed for depreciation, and cites cases from Canada, Nebraska, South Dakota and a few from Wisconsin where 8 per cent has been allowed; also cases where 6, 6.5

and 7 per cent have been allowed; also reports of experts are referred to where amounts ranging from 5.5 to 8 per cent have been allowed.

It is difficult to determine the bearing of these cases without knowing all of the facts found to exist by the Commission rendering the decision. Likewise it would be necessary for me to know on which side the expert in question was testifying before considering very seriously the amounts recommended by such experts. I say this in all seriousness, based upon experience. . . .

In this case the only thing which raises a doubt in my mind as to the excessive amount of the depreciation fund provided is the age of many of the properties of this company. The engineer of the Commission, basing his conclusion on a somewhat longer estimate of the life of the structures of the telephone company than the length of life for which the representatives of the defendant contend, advises that 4.5 per cent is sufficient. As I have said, historically 6.5 per cent is producing too much depreciation reserve, and it will be impossible to determine finally this matter until actual experience is behind such determination. The vice-president of the telephone company testifies that such actual experience has not been had anywhere to a sufficient degree finally to determine the proper depreciation amount. While I do not think this Commission should in any case resort to what is known as splitting the difference, and while I believe that the present rate of depreciation is too high, still I do not recommend that we go as low as our engineer is of the opinion we could go. If error is to be made, I would rather it be in favor of an ample depreciation fund than against it. I therefore will suggest a 5.5 per cent depreciation until such time as actual experience has determined such amount is too high or too low. In fact the company has in times passed allowed 5.5 per cent as a proper amount of depreciation.

§ 1325. Board of Railway Commissioners, Canada—Telephone plant.

In estimating earnings under present rates of charge

the Board of Railway Commissioners⁸ allowed the company an annual percentage for depreciation of 6.77 per cent on the book value of its depreciable property. The book value in this case was considerably less than the estimated replacement cost.

§ 1326. Commonwealth Edison Company, Chicago.

In 1913 an investigation and report on the rates charged⁹ by the Commonwealth Edison Company was made to the City Council of Chicago by Ray Palmer, city electrician, and John E. Traeger, city comptroller.⁹ The report fixes the fair value of the property of the company and recommends a reduction in existing rates of charge. The report estimates the annual allowance for depreciation on a 3 per cent sinking-fund basis. The annual allowance amounted to 3.63 per cent of the value new.

§ 1327. Maryland Commission—Sinking fund.

*Havre de Grace v. Havre de Grace Electric Company*¹⁰ is a rate case coming before the Maryland Public Service Commission. The Commission states that the allowance for depreciation may be properly made on the sinking-fund method and that the depreciation reserve should be invested in the property and not in outside securities. The Commission says (at pages 303-304):

The detailed appraisal arrives at a total fair value for this property of \$42,000. This includes every item of property,

⁸ In the matter of the application of the City of Montreal for a reduction in the rates of the Bell Telephone Company, 13 A. T. & T. Co. Com. L. 93, October 28, 1912, Board of Railway Commissioners of Canada.

⁹ Report to the Committee on Gas, Oil and Electric Light of the Chicago City Council on the investigation of the Commonwealth Edison Company, by Ray Palmer, city electrician, and John E. Traeger, city comptroller, May 14, 1913.

¹⁰ *Havre de Grace v. Havre de Grace Electric Company*, 27 A. T. & T. Co. Com. L. 296, November 28, 1913, Maryland Public Service Commission.

whether depreciable or not. If 4 per cent were applied on the total fair value it would amount to \$1680 per year, and the proper application of the depreciation fund is not to carry the amount as a side investment, but to put the money back into the property. This is the proper and only rational method to follow and, if done, the result will be that the depreciation reserve will be represented in actual operating property which is presumably earning a profit; consequently it is constantly being augmented to the extent of the proportionate profit earned. If, therefore, \$1680 is required annually without interest to replace the entire property at the end of its useful life, if this annual provision is earning interest and is being turned over and over into the property, and consequently if a profit is earned upon it at the end of a term of years, there will be considerably more in the sinking fund than is actually required. The proper and logical method for calculating annual depreciation for a given term of years is to consider the accumulations due to compounding of interest; this is generally referred to as the sinking-fund method.

§ 1328. Nebraska Commission—Depreciation and maintenance of telephone plant.

Re Application of Lincoln Telephone and Telegraph Company ¹¹ for authority to increase rates involves the valuation of a telephone plant for rate purposes by the Nebraska State Railway Commission. The Commission indicates that a reasonable allowance for depreciation would be about 6 per cent, but feeling that depreciation and maintenance are interdependent, and to a certain extent not easily separated, holds that an allowance of 9 per cent to cover both maintenance and depreciation is a fair allowance in the present instance. The Commission says (at pages 151, 153):

In the various hearings had before commissions in other jurisdictions, engineers generally agree as to the average life

¹¹ 19 A. T. & T. Co. Com. L. 134, June 26, 1913, Nebraska State Railway Commission.

of the component parts of the plant, and the amounts necessary to set aside to cover the depreciation. It is found that the rates of depreciation set out will range in different localities, dependent somewhat upon the class of plant, from 5 per cent to 7 per cent, and in some few cases even more, but the generally accepted ratio in the larger plants is 6 per cent, and this is an allowance many of the commissions have agreed and are using in reaching their conclusions in telephone rate cases. In this case the variation between the findings of the various engineers and the estimated requirement, as set forth by the company, ranges from 6.01 per cent to 6.54 per cent on reproduction value.

This charge against the revenues is intended to cover the gradual wasting away of the plant by wear and tear, which is not susceptible of being cared for through current maintenance and to cover loss by reason of obsolescence, inadequacy or public regulation. These last three items are necessarily always more or less a matter of conjecture, but the experience of the past has shown that they are none the less real, and proper allowance therefor is absolutely necessary if justice shall be done to the corporation serving the public. . . .

The testimony developed that, from 1909 to 1911, inclusive, the maintenance charges, for both the Lincoln Telephone and Telegraph Company and the Nebraska Telephone Company, and for the year 1912 covering the consolidated plant, ran from over 5 to over 7 per cent on the book value of the plant. This the Commission feels is excessive, and is probably so by reason of the fact that the line of demarcation drawn between charges against maintenance and what should in fact have been depreciation or replacements was not clearly enough defined to determine definitely the proper charges against this account. . . .

The Commission therefore is inclined to think that with the adoption of the new system of accounting promulgated by this Commission and the Interstate Commerce Commission it will develop that there is no necessity for quite so large a charge against maintenance account as has been made in the past, part of the items entering therein being hereafter chargeable to the depreciation account. Pending the actual demonstration by experience, the Commission will allow for depreciation and

maintenance combined a charge of 9 per cent per annum on the reproduction-new value as found herein.

In other decisions involving the rates of telephone companies the Nebraska State Railway Commission has allowed 9 per cent to cover both maintenance and depreciation, as follows:

Re Application of Lincoln Telephone and Telegraph Company to increase rates at Strang, 22 A. T. & T. Co. Com. L. 888, September 1, 1913.

Re Application of Lincoln Telephone and Telegraph Company to increase rates at Grafton, 22 A. T. & T. Co. Com. L. 893, September 1, 1913.

Re Application of Lincoln Telephone and Telegraph Company to revise rate schedule at Beatrice, 22 A. T. & T. Co. Com. L. 898, September 1, 1913.

Re Application of Nebraska Telephone and Telegraph Company to revise rate schedule at Lexington, 22 A. T. & T. Co. Com. L. 877, August 11, 1913.

Application of Lincoln Telephone and Telegraph Company¹² is also a rate case before the Nebraska State Railway Commission. The engineers of the Commission estimated the annual requirements for depreciation at \$18,097. The Commission held that about 25 per cent of this amount was already included in charges for current maintenance, so that an allowance of \$13,573 as a specific allowance for depreciation was adequate. The Commission says (at page 448):

The company claims that the needs for depreciation reserve above current maintenance are equivalent to 7 per cent per annum of the reproduction-new value, as claimed by them, or \$21,823.14 per annum, which, when added to the current maintenance, based on the three months analyzed, would make the total requirements for depreciation and current mainte-

¹² 28 A. T. & T. Co. Com. L. 441, January 26, 1914.

nance \$31,608.58, and this amount would be equivalent to 10 per cent on the net values as claimed by the company. The Commission feels that this amount is in excess of actual needs.

The engineering department of the Commission has submitted a schedule calculating estimated needs for annual depreciation amounting to \$18,097.82, but assuming, for the purposes of this case, that 75 per cent of this estimate will for the present be a sufficient allowance to cover depreciation, not included in charges for current maintenance, the amount to be allowed will be \$13,573.47, which amount based on 2464 subscribers' stations in service June 1, 1914, is equivalent to \$5.51 per subscriber's station per annum; adding this to costs for current maintenance, removals and changes, which is \$4.01 per subscriber's station per annum, based on actual costs for the three months analyzed, the total requirement for depreciation and current maintenance combined is \$9.52 per subscriber's station per annum—(the total found to be necessary for these purposes in the Lincoln zone was \$12.21).

§ 1329. Nevada Commission—Life of mining camp.

The case of *City of Ely v. Ely Light and Power Company*¹³ involves the valuation of an electric plant for rate purposes. In fixing the annual allowance for depreciation some consideration was given to the fact that mining camps are short-lived. The Commission says (at page 591):

In this case the usual claim is made that mining camps are short-lived, and therefore the respondent should be permitted to earn large returns for the comparatively limited period of the camp's life. Here, again, we are confronted by an element of extreme uncertainty. It is probably true that some consideration should generally be given to this claim. This is usually done through the allowance of a depreciation account, the rate being higher as the risk upon this head appears greater. In

¹³ 24 A. T. & T. Co. Com. L. 578, June 7, 1913, Nevada Public Service Commission.

this case an allowance of 5 per cent seems ample. There is no evidence in this case that would justify an estimate of less than 20 years' life for Ely at approximately its present size.

§ 1330. New Jersey Commission—Gas plant.

In *Re Rates of the Public Service Gas Company*¹⁴ the New Jersey Board of Public Utility Commissioners fixed the depreciation allowance at 6 cents per thousand cubic feet of gas sold. This allowance amounted to \$63,000 on a total valuation including working capital and intangibles of \$4,750,000. The following is from the decision of the Board (at pages 500, 501):

Some explanation should be given for the adoption of the allowance for depreciation on a basis of 6 per cent per thousand cubic feet. Table VIII is an estimate of the amount required for depreciation on the straight-line basis, on a 2 per cent sinking-fund basis, and on a 4 per cent sinking-fund basis. . . .

The total value used in this table does not exactly correspond to the amounts considered in the valuation of the property which we have adopted above, but does not depart sufficiently from these valuations to cause any serious error. This table shows that on a straight-line basis the sum of \$81,397 should be laid aside each year for depreciation. The table also shows the amounts required if the depreciation could be laid aside on a sinking-fund basis. Some study of the experience in handling of depreciation allowances shows that the sinking-fund basis is not ordinarily applicable in connection with a property where renewals are being frequently made of the minor portions of the plant. On the sinking-fund basis the assumption is made that the depreciation allowance will remain intact until the end of the term. As a matter of fact, however, the depreciation reserve is called upon every year to pay for many minor renewals. The amount left in the reserve is ordinarily invested in extensions to the plant and system, and these statements being true,

¹⁴ 1 N. J. B. P. U. C. 433, 15 A. T. & T. Co. Com. L. 354, December 26, 1912.

show that the straight-line basis is the only correct method for computing depreciation reserves in connection with a plant of the character under consideration. The amount referred to above, \$81,397, is very nearly 8 cents per thousand feet of gas.

Analysis of the operating expenses of the company for the years 1904 to 1911 inclusive shown in Exhibit 12 and Exhibit No. 4, September 9th, indicates that minor renewals have already been charged to operating expenses. We have not estimated the proportion of the amounts charged to repairs which might have been charged to depreciation. To do so would require a critical examination of all charges to repairs or to construction. We are of the opinion, however, that an allowance of 6 cents additional to the amounts already charged to operating expenses would be sufficient to properly maintain the property.

§ 1331. New York Commission, Second District—Annual allowance for gas plant and amortization under limited-term franchise.

In *Buffalo Gas Company v. City of Buffalo*¹⁵ the company asked the New York Public Service Commission for the Second District to fix a rate for gas supplied to the city of Buffalo. In estimating the annual allowance for depreciation, the Commission assumed the depreciable property to amount to \$2,500,000, and the average life of the whole to be 35 years. The allowance of 5.3 cents per thousand cubic feet sold on an assumed sale of 633,000M cubic feet was deemed adequate for depreciation (page 654).

*Fuhrmann v. Cataract Power and Conduit Company*¹⁶ is a case involving a valuation for rate purposes. In this case the company had been granted a franchise for 36 years and the unexpired term was but 20 years. The com-

¹⁵ *Buffalo Gas Company v. City of Buffalo*, 3 P. S. C. 2d D. (N. Y.) 553, 23 A. T. & T. Co. Com. L. 244, February 4, 1913.

¹⁶ *Fuhrmann v. Cataract Power and Conduit Company*, 3 P. S. C. 2d D. (N. Y.) 656, 18 A. T. & T. Co. Com. L. 1015, April 2, 1913.

pany took the ground that rates should be so adjusted that it would be permitted to amortize its property during this period of 20 years. The company had in compliance with the uniform system of accounts of the Commission adopted a resolution in relation to "general amortization" in December, 1908, which was intended to cover ordinary wear and tear, obsolescence, inadequacy and the amortization of the capital stock of the company in excess of the estimated value of the tangible property upon the expiration of the franchise. This seems to mean that at the expiration of the franchise the value of the tangible property will be taken at its scrap value. Disregarding the nominal capitalization of the property and its non-depreciable property, the Commission found that its total depreciable property amounted to \$1,760,663 and that the sinking-fund already provided would take care of \$1,065,968 of this amount. Hence there was depreciable property to the amount of \$694,695 which should be amortized during the unexpired franchise term. The Commission then states that at the termination of the franchise the company will have a well-equipped plant in excellent operating condition which has been fully amortized—that is, has been fully paid for by the public—and the Commission states that if at that time the franchise is renewed the city should impose such conditions as would secure for the public the benefits of such amortization. Chairman Stevens discusses this subject as follows (at page 735):

The adoption of this period of life during which the depreciable property is to be amortized will produce some results which should not be overlooked, the first of which is that it is believed to be more favorable to the consumer at the present time than would be found if the ordinary theory of prospective life under an unlimited franchise were adopted.

Interesting questions, however, will arise at the expiration of

the franchise. The company will then be the owner of what will undoubtedly be a well-equipped plant in excellent operating condition which has been fully amortized; that is, has been fully paid for by the public. The company, however, will be the owner of the plant, and not the public; and if the franchise should be renewed it would be incumbent upon those in authority at that time charged with the duty of fixing the rate properly to adjust the equities as between the company and the public. In the rate which should be established at that time there can not properly be any allowance made for the amortization or wearing out of the then existing plant. The rate would necessarily be wholly confined to the return for the use of capital invested. This fact will necessitate very careful accounting methods on the part of the company and a full appreciation by the public in 1932, if the franchise should be renewed, that no element of amortization or paying for the wearing out of the existing plant can properly enter into the rate so long as the then existing plant is continued in service. When it shall have been replaced, another question will present itself for solution.

It is the clear duty of the authorities of the city of Buffalo to make such record of this fact that it will not be overlooked or forgotten at that time.

§ 1332. Oklahoma Commission—Telephone plant—No allowance for certain property.

In *Bolen v. Pioneer Telephone and Telegraph Company*¹⁷ the Corporation Commission of Oklahoma values a telephone plant in the city of Ada for rate purposes. In estimating the annual allowance for depreciation the Commission assumed a ten-year life for inside equipment, and allowed depreciation on a straight-line basis. For other equipment, such as pole lines and aerial cables, the Commission apparently takes the ground that no specific allowance for a depreciation reserve is needed. The Commission says (at pages 50-52):

¹⁷ Order No. 770, December 4, 1913, Oklahoma Corporation Commission.

The defendant corporation asks the commission to approve a plan which, as shown to be practiced by such corporation with sanction and approval of the president of the controlling corporation, pays for maintenance and reconstruction out of revenues, and at the same time to approve a setting aside out of revenues a sum theoretically providing a fund for caring for these identical expenses. The injustice of such a practice, thus illuminated, is so apparent that a request for its approval must be regarded as little less than a presumption upon the credulity of this Commission.

The charge made by the defendant corporation for depreciation on classes of property referred to, having been shown to be theoretical and not actual, and repairs and replacements on such portion of the defendant company's plant as are included in this class of property having been shown to have been made out of revenues, either current or reserved, it appears that such charge is based upon a fallacy and is improper. This fallacy can be clearly illustrated perhaps, as follows:

Defendant's engineer assumes that these classes of property have a specific life in years. From time to time it becomes necessary to repair some property of such class, bringing it into a condition as good as new, or to replace it entire. As a matter of fact, in such latter case, a new period of life in years begins, whereas, under the theory of the defendant's engineer, the defendant company continues to charge up depreciation from year to year the same as though the property embraced in the plant as originally constructed continued without change or substitution. For instance, the defendant's engineer estimates the life of a pole as approximately eight years. The record shows that in a great many instances poles stand and perform uninterrupted service for a period greatly exceeding the defendant engineer's estimate of life in years stated. Where the period of service exceeds such period, the conclusion is inevitable that after the expiration of eight years the defendant engineer would continue to charge annual depreciation against such pole and for a period of service equaling double the engineer's estimate, as frequently happens, the pole would be worth to the defendant company, at the expiration of the 16 years, 200 per cent of its

original value in its capacity to earn a charge for depreciation. Should the pole in question after five years or one year of service be destroyed by fire or shattered by lightning, it would be replaced with a new pole, the life in years of which would in point of fact begin with its erection. Under the theory of the defendant's engineer, such new pole would be carried in the depreciation account of the defendant company as having an age of five years or one year, as the case might be, at the time its use actually began.

The same discussion is applicable and conclusion inevitable as to aerial cable, or any other class of construction here referred to.

It appears from this statement of facts in this connection, and the Commission finds that on the class of construction referred to there is in fact no depreciation except such as is cared for from time to time out of revenues, and in accordance with the judgment of the Commission's engineer, the Commission finds that a charge for such depreciation is improper and should not be allowed.

As to classes of physical property which may be designated as interior equipment, there is no material difference between the engineers as to the amount to be charged for so-called depreciation. The Commission's engineer states that inasmuch as the deterioration of equipment of this class occurs by reason of invention or improvement, mechanical or scientific in its nature, rather than by reason of actual physical wear and tear, this deterioration is more accurately described as obsolescence than as depreciation; but inasmuch as the difference in the amounts allowed by the engineers for this deterioration in the property involved herein is not of sufficient importance to affect the net return on investment therein, these differences will not be discussed at length.

§ 1333. Wisconsin Commission.

The case of *City of Milwaukee v. The Milwaukee Electric Railway and Light Company*¹⁸ involves the valuation of a street railway for rate purposes. The Commis-

¹⁸ 11 W. R. C. R. 1, 14 A. T. & T. Co. Com. L. 197, August 23, 1912.

sion issued an order slightly reducing the existing rates of charge. In this case the city contended that only that portion of the depreciation is a part of the cost of the service which lessens efficiency, and that consequently obsolescence is not an element to be considered as it does not increase the cost of the work. The installation of more efficient types of apparatus enables reductions to be made in operating expenses. The Commission, however, rejected this contention, and based its depreciation allowance on the amount necessary to take care of inadequacy and obsolescence, as well as depreciation due to wear and tear. The decision of the Commission contains (at pages 215-240) a detailed discussion of the annual depreciation allowance. Tables 71 and 72 tabulate the depreciation rates for the various items of street railway property used by various companies, experts and other authorities.

*Superior Commercial Club v. Superior Water, Light and Power Company*¹⁹ involves the valuation of a water, light and power plant for rate purposes. In regard to the annual allowance for depreciation the Commission says (at page 752):

For the year ending June 30, 1912, these reserves aggregated 5.847 per cent for the electric department, 2.219 per cent for the gas department, and 1.0566 per cent for the water department. A computation of the average life of various groups of depreciable property would indicate that these allowances are in excess of what would be reasonably required each year to offset depreciation, and accordingly the allowances made in determining the cost of service have been placed at 4.5 per cent of the total cost-of-reproduction-new in the electric department, 2 per cent of the total cost-of-reproduction-new in the gas department and 0.8 per cent of the total cost-of-reproduction-new in the water department.

¹⁹ 11 W. R. C. R. 704, November 13, 1912.

*City of Green Bay v. Green Bay Water Company*²⁰ involves the valuation of a water plant for rate purposes. The annual allowance for depreciation was computed on a 2 per cent sinking-fund basis on the depreciable property. This amounted to very nearly 1 per cent of the cost of reproduction of the total property (page 254).

§ 1334. Federal Court in Alabama railroad rate case.

*South and North Alabama Railroad Company v. Railroad Commission of Alabama*²¹ is a railroad rate case. Special Master William A. Gunter in his report on this case held that the cost of property abandoned in connection with additions and betterments constituted a proper charge to operating expenses of the two current years, for the purpose of determining net income for rate purposes. He says (at pages 112-113):

During the fiscal year ending June 30, 1910, there was a charge of \$256,171.57 made to operating expenses for abandoned property in connection with the revision of grade and second track. (Record, 2992.)

The defendants insist that the abandonment of structures from obsolescence or inadequacy is not depreciation because the structure has not lived out its original expectancy. Of course this argument will not do. It makes no difference whether the old garment or structure has become too small for the boy or inadequate for the railroad; in either case its worth is only the scrap value and in either case the necessity is the same to renew as it would be if the last day of actual life had expired. The loss must fall somewhere, and naturally it comes out of the expenses of the year. In this instance, the amount being large, the Interstate Commerce Commission authorized half to be charged to 1910 and the other half to 1911; this, if altered, would put

²⁰ 12 W. R. C. R. 236, January 6, 1913.

²¹ *South and North Alabama Railroad Company v. Railroad Commission of Alabama*, Report of William A. Gunter, Special Master in Chancery, 1911.

it all on 1910. There is not a doubt, however, that the whole charge, if it could be foreseen as one obliged to come within a given time, might, with propriety and justice, have been anticipated by a special reserve fund raised against the years between the periods of preparation for abandonment and actual abandonment—but that would spread the charge over several years, I suppose, prior to June 30, 1910, but in no event can it be projected against or into the future.

There is no data by which it can be prorated with past years, and it belongs in the current year in which the loss (the abandonment) occurred.

CHAPTER XXI

Going Concern in Purchase Cases

§ 1340. Railway and Canal Commission of Great Britain—Cost of obtaining telephone subscribers' agreements.

1341. New York Appellate Division—Capitalization of purchased railway.

1342. Wisconsin Supreme Court—Review of determination of Commission.

§ 1340. Railway and Canal Commission of Great Britain—
Cost of obtaining telephone subscribers' agreements.

This case involved the determination of the value of the property of the National Telephone Company upon its transfer to the Postmaster-General at the expiration of the company's license on December 31, 1911. Under the purchase agreement between the parties dated August 8, 1905, the purchase price was to be based substantially upon the reproduction cost of the physical property less depreciation.

In this case the court made an allowance of £150,000, or about 1½ per cent on the inventory-reproduction-cost, to cover the bare cost of obtaining subscribers' agreements. It was argued that inasmuch as it would not be practicable to carry out the process of construction without an agreement in the first instance for the installation of the telephone, these agreements belong in the same category as way-leave agreements. Justice A. T. Lawrence in delivering his judgment discusses this point as follows (at pages 505–507):¹

¹ National Telephone Co., Ltd., v. His Majesty's Postmaster-General, Railway and Canal Commission of Great Britain, 16 A. T. & T. Co. Com. L. 491, January 13, 1913.

The cost of obtaining subscribers' agreements is an item which has been disputed by the Postmaster-General, not only as to amount but also as to its being an admissible element of cost. I confess I have been very much surprised at this, not merely because it seems to me to be within the principle of the case allowing the expenses of obtaining Parliamentary powers for a tramway, but also because it is plain that the Postmaster-General has treated the transfer of the company's system as having the effect of an assignment, by operation of law, of these very agreements. So that he takes up these inconsistent positions: As between himself and the company's subscribers, he takes all the benefits conferred by the agreements upon the company; but, as between himself and the company, he says, "I claim to be entitled to refuse to pay you anything in respect of the expense to which you have been put in obtaining and entering into these agreements."

This does not seem to be right, and it would follow from it that an instrument in a house vacant at midnight on December 31, 1911, was as valuable and as suitable to the service of the Postmaster-General as one in a house the agreement for which continued and poured its tariff, or rent, into his coffers without any interruption. It seems to me that the reasonable cost of obtaining this agreement is the very lowest measure of the difference in the value of these two instruments. It is the difference between the barren and the fruitful, which is familiar in many cases. It is quite true that clause 4 expressly deprives the company of any allowance for past or future profits, so that the value of the good-will of the agreement can not be given, but how this can be construed to exclude the bare cost of getting the agreement and of thereby securing a station in the subscriber's house I fail to understand. The instruments and their connections would constitute trespasses but for the fact that they were erected pursuant to these agreements. The consent of the subscriber embodied in the agreement was as necessary in order to make the erection of the instrument a lawful act as the Parliamentary powers were in order to legalize the breaking-up the surface of the highway for the purposes of a tramway. I am not now dealing with the quantum of cost. The evidence

upon that subject is scanty, and I think it is to be inferred from it that other expenses have been included in the claim beyond those which can be properly attributed to the obtaining of the agreements in force for the instruments *in situ* at the date of the transfer. Sir Alfred Cripps felt this, and suggested that we should allow one-half of the amount claimed. We must reduce this claim, and we have done so. The amount we allow, after depreciation, stands, in round figures, at £150,000.

The same subject was also discussed in the judgment of Judge Woodhouse (at page 534):

The item of £521,668 for subscribers' agreements was stoutly challenged as a wholly untenable item of construction cost.

These are the agreements which it has been necessary for every subscriber to enter into before the company would install the necessary instrument in his premises. The agreements have, from time to time, varied in form. In some of them the company bind themselves to put up the required plant, but all of them contain the license for the company to enter the premises to put up, and on termination remove, the apparatus. They contain also provisions as to the terms of subscription and other conditions affecting the renter's obligations. It was argued that these agreements, and the charges of the canvassers and others in the contract department for obtaining them, were no part of the construction cost, and related solely to the business side of the accounts. It was admitted, on behalf of the company, that the claim was overstated, and that undoubtedly the agreement did affect the business as well as the constructive side of the concern. I am of opinion that, as it would not be practicable to carry out the process of construction without an agreement in the first instance, they stand, to the extent to which they relate to construction, in a like category to way-leave agreements, and a substantial sum should be allowed in respect of these agreements as part of the construction cost, and I think, after taking depreciation into consideration, £150,000 would be a proper allowance to add to the net value when ascertained.

§ 1341. New York Appellate Division—Capitalization of purchased railway.

In *People ex rel. Westchester Street Railway Company v. Public Service Commission*² the Appellate Division reverses an order of the New York Commission for the Second District fixing the capitalization of street railway property purchased by a street railway company. Judge John M. Kellogg in delivering the opinion of the court says (at page 257):

It was proper to deduct from the estimated reproduction cost proper depreciation resulting from age and use; also, if age and use in any way appreciated the value of the property, that should have been considered. The fact that the property was bought as a going concern evidently saved some engineering expenses, interest, and much delay. A settled road-bed, perhaps, is more valuable than one recently graded.

§ 1342. Wisconsin Supreme Court—Review of determination of Commission.

*Appleton Water Works Company v. Railroad Commission*³ is an action brought under the Wisconsin Public Utility Act to alter or amend an order of the Railroad Commission fixing the compensation to be paid by the city of Appleton for the purchase of the plaintiff's waterworks plant. In this case the Railroad Commission stated in its award that it had considered the question of going value in arriving at its conclusion, but did not fix any specific amount for going value. The Commission had found the cost-of-reproduction-new of the physical property to be \$282,000 and the cost-of-reproduction-less-depreciation to be \$242,217. The purchase price fixed by the Commission was \$255,000. From these facts the Circuit Court held that the Commission had fixed the going value of the

² 158 App. Div. 251, 143 N. Y. Supp. 148, July 8, 1913.

³ 154 Wisconsin 121, 142 N. W. 476, May 31, 1913.

company's plant and business at \$13,000. On appeal, the company claimed that the allowance made by the Commission could not have been more than \$5,000. The Railroad Commissioners who were placed on the stand were unable themselves to name any definite sum which they were willing to say they considered in their minds as the going value, although they testified that going value had been considered and allowed for in arriving at the final result. The Supreme Court upholds the award of the Commission in regard to its treatment of going value. The court discusses the question of going value at considerable length and concludes that it is difficult or impossible to fix a definite sum as the measure of going value. "The value of the plant and business is an indivisible gross amount; it is not obtained by adding up a number of separate items, but by taking a comprehensive view of each and all of the elements of property, tangible and intangible, including property rights, and considering them all, not as separate things, but as inseparable parts of one harmonious entity, and exercising the judgment as to the value of that entity. In this way the going value goes into the final result, but it would be difficult for even an expert to say how many dollars of the result represent it." The conclusion of the court seems to be that in a purchase case value depends chiefly upon the value of the income of the plant under reasonable rates of charge. The court says (at pages 484-485):

The term "going value" is somewhat vague, and is a comparatively recent addition to the terminology of the subject. It is not the value of the franchise and it is not the good-will of the business—certainly it can not be the latter in the case of a monopoly like the present. . . .

The existence of the term as designating a substantial element of value seems to be largely due to the fact that in appraisal cases like the present as well as in rate-making cases there has

been a very general adoption, both by courts and commissioners, of the plan of ascertaining by expert evidence the cost of reproduction of the existing plant, and then making a deduction for depreciation, and thus arriving at what is called the present physical valuation. This has been universally recognized, not as fixing the present physical value of the property or the business, but only as an important and helpful consideration which may throw light on the question. It has the advantage of comparative ease and certainty of ascertainment. It is said by Whitten (Valuation Pub. Serv. Corpns. Sec. 639) to be at present the most generally accepted basis of valuation for purchase or rate making. Construing the word basis to mean simply a fundamental fact or starting-point not in any sense exclusive or controlling, the statement seems to be substantially correct. Important as it may be, however, this physical valuation so obtained is but one of numerous facts to be considered in reaching the final result. The commercial value of the business in full operation and entitled to charge reasonable rates for its service must, however, be considered as approximating the compensation which should be allowed for the property—in other words, the sum which the business should be capitalized for in order that the owner should receive a reasonable return on the investment when the business is conducted with reasonable business skill and charges such reasonable rates for service as the law permits. If this value exceeds the physical value of the tangible property, then it might be said that the difference ought to be the measure of the indefinite and intangible thing called going value, and such has been sometimes considered the best way to arrive at the going value. Again, it has been thought that going value might be measured by ascertaining as nearly as possible the cost of reproducing the existing business, sometimes called the unrequited outlay, *i. e.*, the amount of the deficits which would be incurred added to the promotion expenses necessary to be incurred up to the time the new plant would have a business equal to that of the present plant; or again, by ascertaining the actual unrequited outlay in building up the present business; or again, by ascertaining the average time and proportional outlay actually incurred in building up the business

of a number of concerns of like character, and thus establishing what may be called a curve which can be used in determining the time and outlay which would be reasonably necessary in the instant case. It is quite apparent that the result reached by either of the suggested methods could hardly be considered as anything more than suggestive, and that its persuasiveness would necessarily depend upon many other facts which must enter into the general problem of value. The actual original cost of establishing the business of the existing plant is very clearly unsatisfactory to the last degree as a test of going value, because it may have been wasteful and extravagant, and because also it is well known that the building up of the business of a water plant thirty years ago, before sewerage systems had become common and the private water supply had been discredited, was a much slower process than at the present time when in such a city as Appleton the population has been educated to use the public supply of water. Estimates of cost of working up a business under present conditions approach nearer to the requirements of a test, but they must always remain estimates, however carefully they be conducted; they can not be called facts.

However, the fundamental difficulty with the attempt to set a definite sum as the measure of going value is that it is an attempt to divide a thing which is in its nature practically indivisible. The value of the plant and business is an indivisible gross amount; it is not obtained by adding up a number of separate items, but by taking a comprehensive view of each and all of the elements of property, tangible and intangible, including property rights, and considering them all not as separate things, but as inseparable parts of one harmonious entity, and exercising the judgment as to the value of that entity. In this way the going value goes into the final result, but it would be difficult for even an expert to say how many dollars of the result represent it.

In the case before us it is quite apparent from the report of the Commission that the commissioners fully appreciated this cardinal principle of valuation.

They had before them much evidence bearing on the general question of value and just compensation from different angles;

they had the very careful and elaborate estimates of their engineers, not only as to the cost of the reproduction of the plant and its present value based on present prices, but also based on the average of prices for five years; they had all the testimony given in the rate case showing inadequacy in the present plant to meet the reasonable demands of the public service, and the necessity of the immediate expenditure of at least \$50,000 to make the plant reasonably efficient; they had tabulated statements furnished by the company itself in the rate case which tended strongly to show that the revenues of the plant had not been sufficient at any time to give anything more than an insignificant return upon the investment, if indeed they had given that; they had very complete information as to the condition of the physical property, the attitude of the public toward the concern, the probable growth of the city, and in fact of all the surroundings; they also had expert evidence as to the actual unrequited cost of building up the business of the plant, and expert evidence on both sides as to the probable unrequited cost in building up the same business with a new plant under present conditions, which estimates differed by many thousands of dollars. All of this testimony was considered by the Commission in passing upon the ultimate question of value; it seems very clear to us from the report of the Commission that all the facts in evidence bearing on the question of value were carefully weighed by the Commission; we discover nothing to indicate that the Commission acted on any mistaken basis in reaching the conclusion that \$255,000 was the fair and just compensation which should be paid for the plant.

Judge Marshall submitted a separate opinion in which he argues that the amount of going value should be clearly stated. He says that he is a fearful that the rights of the water company have "not been fairly considered in respect to the elements of indeterminate permit and good-will, or going value."

CHAPTER XXII

Going Concern in Rate Cases

- § 1350. The theory of going value.
- 1351. Federal Court—Montana railroad rate case.
- 1352. Federal Court—Des Moines gas rate case.
- 1353. Arizona Commission and Federal Court.
- 1354. California Commission.
- 1355. Chicago telephone appraisal.
- 1356. Commonwealth Edison Company, Chicago—Allowance for free wiring and consolidation costs.
- 1357. Georgia Commission—Cost of attaching business should not be capitalized.
- 1358. Maryland Commission—Allowance refused for early losses occasioned by competition.
- 1359. Massachusetts Board of Gas and Electric Light Commissioners—Haverhill gas rate case.
- 1360. Michigan Commission—Capitalization of estimated early losses.
- 1361. Nebraska Commission.
- 1362. Nevada Commission—Allowance for going value disapproved.
- 1363. New Hampshire Commission—Actual cost of establishing a paying business—Early losses may not be capitalized.
- 1364. New Jersey Commission and Supreme Court—Going value allowed.
- 1365. New York Commission, First District, and New York courts.
- 1366. New York Commission, Second District—Allowance for going value, if any, should be made in the rate of return allowed.
- 1367. St. Louis Commission—Expenditures to obtain business are not capital charges but operating expenses.
- 1368. Washington Commission.
- 1369. Indiana Commission.

§ 1350. The theory of going value.

We may take it as an established principle that the determination of fair value for rate purposes is normally one step in the process of determining what is a fair cost of production. Fair value is therefore normally based on cost, either actual cost or replacement cost. When, therefore, we speak of going value as an element of fair value

for rate purposes it must be assumed that such value will be based on a necessary cost actually entering into the cost of production. It can not logically be based on any monopoly or good-will element, or any estimate of the value in money to the company of its developed earning power. As a reasonable rate of return is normally based on cost of production, either assuming the actual investment or assuming a present reproduction of the property, it would seem that going value must either be based on the actual cost of establishing the business or on the estimated cost of reproducing the business. This in general has been the attitude of courts and commissions in so far as they have considered going value in the determination of reasonable rates.

Courts and commissions have in most cases in recent years considered going value as the actual cost of establishing the business. The rule laid down in many cases by the Wisconsin Railroad Commission, and followed by various other authorities, is to consider as going value the uncompensated losses incurred in the development of the business. That is, going value is ordinarily the amount by which early failure to earn a fair return has not been offset by subsequent earnings in excess of a fair return. A few authorities, notably the two New York Commissions, have approved in general this method of determining the cost of establishing the business, but have maintained that inasmuch as it is only the net or uncompensated loss that is considered it is scarcely appropriate to include such cost in fair value. It is more appropriately allowed for in the rate of return. If returns are impaired while the business is being established, it seems appropriate that the impairment should be reimbursed by more liberal returns in profitable years. Under the theory adopted by the Wisconsin Commission the cost of establishing the business is not a permanent sum, but varies from year

to year as it is increased by failure to earn a fair return or reduced by returns in excess of a fair amount. It is treated not as a part of the capital cost but as an amount to be reimbursed out of future earnings. It seems inconsistent, therefore, to consider such cost a part of fair value. It is appropriate to allow for it in fixing the rate of return.

In some exceptional cases public utility enterprises may find it necessary under conservative management to capitalize business development costs. Ordinarily, however, this is unnecessary and would be considered poor business management. The better way is to forego dividends until earnings are adequate to cover ordinary operating expenses, cost of securing new business and interest on bonds. As this is the rule approved by the best practice, it seems appropriate to assume its existence in determining cost of production as the basis for a reasonable rate of charge. Ordinarily, therefore, cost of establishing the business will not be included in capital cost, but will be reimbursed out of earnings.

In opposition to the method of reimbursing out of earnings the cost of establishing the business, it is argued that such cost is as much a part of the capital cost as is the cost of the physical property. This being so, it is a cost that should be paid for by all users throughout the life of the utility and not by the users of the earlier years. By reimbursing this cost out of earnings the consumers during the period of such reimbursement are taxed for something that will be of as much benefit to the future consumers as to themselves. This argument is not convincing. The public as users of public utilities are as much interested in the future as in the present. Public policy with relation to public utility rates can not be limited by an estimate of cost to a particular consumer at a particular moment. Public policy will look to the future

as well as to the present, and adopt the rate policy that offers the largest measure of public advantage, even though the chief advantage be secured by future consumers rather than by those of the present. The rate-paying public can well afford to bear the temporary extra cost of amortizing all intangible and questionable elements of capital cost. This will tend to safeguard the actual investment of the security holders and to reduce the cost of production and the rate of charge.

The New Jersey Commission has included in going value not only the early deficits but also the cost of getting new business, including the cost of new business obtained in recent years and charged to operating expenses. In its decision (see § 1364) the Commission had to do with a heretofore unregulated utility. The inference is that if a utility while subject to regulation charges the cost of obtaining new business to operating expenses it will not be allowed to include such costs in the fair value of its property in any subsequent rate-regulation proceeding.

Most commissions in considering the cost of establishing the business have considered the estimated actual cost and not the estimated reproduction cost of such establishment. Even where commissions have relied upon the reproduction method in determining the cost of the physical property they have usually tried to estimate the actual rather than the reproduction cost of the established business. This seems strange in view of the fact that it is much more difficult to determine the actual cost of establishing the business than it is to determine the actual cost of physical property when such cost is taken as the first cost of the units now in place (see § 1016). A reason for turning to the actual-cost method to determine the cost of the established business is found in the fact that it is considered that this allowance should cover only

uncompensated losses, or the amount by which early failure to earn a fair return has not been offset by subsequent earnings in excess of a fair return. If this principle is accepted, it is clear that a hypothetical reproduction process could scarcely be applied.

In a few recent cases the Wisconsin Commission has considered an estimate of the cost of reproducing a paying business in fixing fair value. The reproduction method as thus used is not the comparative-plant method, but an estimate of the losses that would be incurred assuming that the enterprise were to be started under present conditions. It only includes failure to earn a fair return up to the time when it is estimated that the business will have been placed on a paying basis. The estimate under this method is naturally much less than would ordinarily be found under the comparative-plant method, and is ordinarily also less than the probable total actual cost to the company of developing its business.

§ 1351. Federal Court—Montana railroad rate case.

Montana, Wyoming and Southern Railroad Company *v.* Board of Railroad Commissioners of Montana ¹ involves a valuation for rate purposes. The district court enjoined the enforcement of a rate fixed by the Montana Commission. In this case the court refused to include an allowance for going value. The railroad in question had been in operation only a few years, and during that time had been once reorganized, and up to the date of the inquiry had not paid interest on its bonds. The court held that under the circumstances it was clearly not entitled to a valuation in excess of the cost-of-reproduction-less-depreciation. In fixing a value based on such amount the court states that it is allowing a value in excess of second-hand or scrap value, and that any allowance in addition

¹ 198 Fed. 991, March 30, 1912.

for going value would be improper in the present instance. Circuit Court Judge Hunt says (at pages 1005-1006):

Briefly stated, the argument of complainant is that mere cost of reproduction is not by itself a proper measure of the value of a railroad; that there are such things as strategic position, organization, value of possible and probable development of business and property along its line, and earning capacity, to be considered and estimated by standards of pecuniary value. The master took this view, which has heretofore been expressed in the quoted testimony of Mr. Zook, and allowed \$135,000 to cover the item.

I shall not dispute the proposition that a prosperous competing railroad doing a good business, earning substantial profits, with an established popularity, affording ample facilities for moving freight or passengers, should be valued with regard to the elements just mentioned. And this to an extent is true of a railroad which is a monopoly. *Cedar Rapids Gas Light Co. v. Cedar Rapids*, 223 U. S. 655, 32 Sup. Ct. 389, 56 L. Ed. 594, decided by the Supreme Court March 11, 1912. But up to the time of the inquiry into the rates involved in this case this railroad has never paid interest upon its bonds; nor has it accumulated more than a very limited equipment; nor has it prospered to any apparent material extent. Although without a competitor, it never seems to have had to its credit a well-established business; nor did it keep up its roadbed as it should have. Its history shows that it languished and drifted into the hands of receivers. True, under complainant's ownership, it has added to its equipment and would seem to be well and economically managed, yet it is significant that its coal shipments from September, 1909, to September, 1910, were less than in the previous 12 months. Nevertheless, its principal patrons have expressed dissatisfaction with the service, and there seems to be nothing either by way of mere good-will or advantage incident to the possession of a monopoly which, although of some value, justifies present attempt to ascertain such valuation, independent of the whole structure.

Certainly the property of the Montana, Wyoming and South-

ern has a value independent of use or right of use. The rails, ties, switches, stations, fences, and all such things are valuable, and, unless they can be used by the complainant company in the place where they are now, their value is away below the estimates allowed by the master. It is evident, however, that, in the estimates allowed, the fact that the whole railroad is one in operation and use had been considered, and that values upon the several things have been based upon value of the railroad as in use. I am unable to see why, under the facts, at this time, there should be separation of going concern value from railroad value. *Water District v. Water Company*, 99 Me. 371, 59 Atl. 537; *Spring Valley Waterworks v. City of San Francisco* (C. C.) 192 Fed. 137. It is proper, therefore, that the master's finding (No. 50) should be disregarded, and it will be.

§ 1352. Federal Court—Des Moines gas rate case.

Des Moines Gas Company v. City of Des Moines ² involves the valuation of a gas plant for rate purposes. Judge Robert Sloan, Special Master in Chancery, in his report filed April 4, 1912, in this case seems to have been disposed to allow the claim of the company to \$300,000 as going value, but when the decision of the Supreme Court of the United States in *Cedar Rapids Gas Light Company v. Cedar Rapids* ³ was handed down it would appear that he concluded to exclude this item. In the *Cedar Rapids* case the Supreme Court held that where a court in fixing fair value for rate purposes has taken "into account the fact that the plant was in successful operation" it has given adequate consideration to the going concern factor.⁴ Taken in its context this phrase may be taken as meaning merely that if a plant is in successful operation it is entitled to a valuation based on the cost or the cost-of-reproduction-less-depreciation of the com-

² 199 Fed. 204, August 21, 1912.

³ 223 U. S. 655, March 11, 1912.

⁴ Quoted more fully in § 557.

plete plant, and not upon the mere salvage value of its separate units. This decision was handed down after the report of Judge Sloan had been tentatively prepared and submitted for criticism. In this tentative report Judge Sloan accepts the company's claim to an allowance of \$300,000 as going value. After the decision in the Cedar Rapids case he apparently, while leaving his previous discussion of going value unchanged, merely adds a few paragraphs which seem to say that in view of the decision of the Supreme Court of the United States he feels it necessary to exclude the item of \$300,000 as going value. Referring to the Cedar Rapids decision Judge Sloan says (at page 121):⁵

In my judgment, after considering the able and thorough arguments of counsel, it is decisive of the question, and holds, that "going value" should not be considered in determining the basis upon which the complainant is entitled to have its return reckoned, and I feel it is my duty to so state.

The physical value as hereinbefore determined is reckoned upon the fact that the plant was in "successful operation" when the ordinance was enacted, otherwise its value would be much less. The "going value" is that enhancement which results from a well-developed and paying business. This would result in reducing the estimated deficits for each year \$24,000 and yield a return to the complainant of at least 6 per cent on \$2,100,000.

The brief for the company contains a rather convincing argument in support of the contention that the master in fixing fair value did exclude this \$300,000 of going value. District Judge Smith McPherson, however, while holding that a proper allowance for going value should have been included, maintains that the master undoubtedly did in-

⁵ *Des Moines Gas Company v. City of Des Moines*, United States District Court, Southern District of Iowa, Central Division, Report of Robert R. Sloan, Special Master in Chancery, April 4, 1912.

clude such an allowance in his estimate of fair value. He says (at pages 208-209):⁶

The master finds that the "going-concern" value of the plant is \$300,000; but the gas company, by its exceptions, contends that this sum is not in the total of items making \$2,240,928, the value placed on the entire plant. A "good-will" value and a "going-concern" value are often confused and used interchangeably, and I am inclined to believe that in some instances the master's report is subject to this criticism. But whether this is so or not is not of much importance, and it is more of a verbal criticism than a practical one. Under the authorities cited, as well as others easily found from those cited, a "good-will" value, by reason of being a monopoly, such as a gas company has under an ordinance, is not to be reckoned. The item of \$300,000 for "going value" is quite important in this case. It is contended that if this \$300,000 must be added, and the consumption of gas remains the same, and the percentage of dividends allowed by the master should stand, there will then be a shortage. The authorities already cited, and which in my opinion are in accord with good sense, favor the allowance of a "going value." Every kind of business, with no exception, has a value known as "going value," and such "going value" is in no way connected with the monopoly or "good-will" value. The gas company contends that this "going value" of \$300,000 was erroneously omitted by the master in his totals, while the city contends that the sum of \$300,000 has already been considered in making up the grand total of \$2,240,928. I am of the opinion that the contention of the city is a correct one. This matter has received from me most earnest attention and consideration, and I will briefly present the reasons for my conclusion.

The master fixes the physical value at \$2,240,928. He means thereby, and to my mind clearly states that as, the value of the *gas plant*. There are but five items making this grand total. Counsel on both sides and I agree that "going value" is a part of the present value. The master so held. It would

⁶ 199 Fed. 204, August 21, 1912.

be strange that the master would hold that the "going value" of \$300,000 entered into the actual value, and then by inadvertence omit it. And it would be the more strange after considering the items set forth in the report. By the report he lists the following:

1. Working capital	\$140,000
2. Real estate	150,000
3. Organization expenses	6,923
4. Meters in stock	6,603
5. Present value of physical property, aside from above items	1,937,402

Evidently, because the master used the word *physical*, counsel seem to conclude that he did not include "going value." If he had omitted the word "physical" as an identification, then no one would doubt but that he did include "going value." But why would the master include five items, and omit one that he meant to include? But the criticism is too refined and technical to stand as against his entire report. After enumerating the four items, he adds, "Present value of physical property *aside from* above items, \$1,937,402." This is as though he had said, "All other items of value to be considered." How can it be said that he meant "junk value"? Or "bare-bones" value, as used in some of the cases? It is not fair to say that he meant junk value, or bare-bones value. He meant that was the value coupled with the preceding items of the gas plant—a plant making and selling gas. He meant that, and neither more nor less than that.

§ 1353. Arizona Commission and Federal Court.

The case of *Municipal League of Phoenix v. Pacific Gas and Electric Company*⁷ involves the valuation of a gas and electric plant for rate purposes. The Commission refused to make any allowance for going value, on the ground that it was not shown that the company had suffered any

⁷ 21 A. T. & T. Co. Com. L. 699, June 23, 1913, Arizona Corporation Commission.

loss in building up its business. The Commission says (at page 717):

The theories advanced in support of going value are many and varied. In some instances courts and commissions have entirely disregarded it, and in certain instances certain amounts and percentages have been allowed. In this case it has not been shown that the results of the operations of the company, based upon a fair and reasonable valuation of its properties employed, has not yielded ample returns at all times. In so far as the records go, the converse is found to be true. So far as appears, the company has, dating from the period in its history disclosed in this case, paid its interest charges and operation. Its interest-bearing securities—that is, its preferred stock and outstanding bonds—have, since 1906, exceeded the physical valuation of the properties as submitted by the company and greatly exceeded the physical valuation as determined by independent engineers Koiner and Barker employed by this Commission to ascertain the facts. The records further show that since 1906 a depreciation fund was accumulated and in some respects improperly dissipated. At times during this period their records show a surplus in addition to the depreciation fund. On the whole it has not been shown that the owners of this property at any time have suffered a loss, either in building up the business or through inadequate return upon the value of the plant, and it is our opinion and we will hold that going value, all facts duly considered, should not be included for the purpose of establishing just and reasonable rates in this case.

*Huffman v. Tucson Gas, Electric Light and Power Company*⁸ also involves a valuation for rate purposes. In this case also the Commission makes no allowance for going value. The Commission says (at page 744):

The testimony in this case discloses nothing indicating any losses in the early history of this respondent; on the contrary,

⁸ 21 A. T. & T. Co. Com. L. 725, July 9, 1913, Arizona Corporation Commission.

the record before us shows that respondent's earnings have been more than sufficient to offset any claims for going value. We find nothing in the record justifying this Commission allowing any sum to cover such hypothetical value.

In *Bonbright v. Corporation Commission of Arizona*⁹ the Federal Court granted an interlocutory injunction against the enforcement of the order of the Commission in the Phoenix case. The court holds that the Commission erred in not including a specific allowance for the value of the attached business of the company. Circuit Judge Morrow says (at pages 54-55):

With respect to the item of accrued deficits based upon a reasonable return on the money invested since the organization of the company, estimated by the experts at \$280,000, and for which no allowance was made by the Corporation Commission, we have not had time to examine the evidence with respect to this item. As has been stated, this is the valuation of a going concern as distinguished from the bare bones of the corporation. The courts recognize a difference between the value of a plant of this character, without customers or business, and a plant that has been fully established and connected up with a municipal lighting system and with the houses, business places, and factories of regular customers. The present corporation was in August of last year a going concern; it was connected up with the municipal lighting system, the houses, business places, factories, and other institutions of a prosperous community, and there was nothing more to do except to deliver the service, for which the corporation was fully and efficiently equipped. We think this element of valuation should be considered in connection with the other elements of valuation with the view of determining the actual present value of the whole plant.

§ 1354. California Commission.

*City of Palo Alto v. Palo Alto Gas Company*¹⁰ involves

⁹ 210 Fed. 44, November 19, 1913.

¹⁰ 2 Cal. R. C. R. 300, 18 A. T. & T. Co. Com. L. 966, March 12, 1913.

the valuation of a gas plant for rate purposes. The Commission holds that the cost of establishing the business should be considered in a rate case and should be allowed for either by an increase in capital charges or through amortization out of earnings during the early years. Mr. C. L. Cory, the company's witness, submitted an estimate of going value or development cost as follows (at page 309):

Organization expense	\$2,500
Six per cent for 1½ years on \$60,000	5,400
Deficit or margin between operating expenses and revenue, average for 1½ years	6,000
Expense, advertising, etc., in developing business . . .	2,000
Total	<u>\$15,900</u>

The Commission notes that the item of organization expense seems to duplicate the item of administration during construction already estimated by Mr. Cory in his physical appraisal. The Commission also notes that the company in 1910 declared a dividend of \$10,000 out of surplus earnings, and that the company's annual charges to depreciation have admittedly been larger than necessary. Commissioner Thelen in delivering the opinion of the Commission discusses the problem of going value as follows (at pages 310-311):

That there are certain actual costs incurred in developing the business during its early stages, for which costs the utility is entitled to be reimbursed, just as clearly as it is entitled to a return on the physical portions of its plant, seems to be too obvious for argument. The investor must go into his pocket to meet one kind of cost just as clearly as the other. There are two schools of thought with reference to the manner in which the so-called "going-concern" value or "development cost" should be met. The supporters of one school are of the view that these items should be added to capital account, while those of the other school believe that they should be taken care of by rates

higher than would otherwise be in effect during the first years of the utility's existence. The difficulty with the first view is that its adoption will result in the increase of the permanent capital account and the consequent payment of higher rates for all time to come. The difficulty with the latter view is that it casts upon the patrons during the first years the duty of paying rates even higher than the usual relatively high rates which are paid at the outset of a utility's history. I am of the opinion that such costs, legitimately and wisely incurred, should be taken care of in some way, but the exact method to be pursued, and the extent to which consideration should be given to such items, will depend upon the facts of each particular case. It might well be, for instance, that if the utility is unwisely conceived or struggles against unusual difficulties, the cost of developing the business including the early losses may run up to almost the entire value of the physical plant, if not in excess thereof. It may happen, also, that while in one case the addition of these costs to capital account might be perfectly fair, in another case justice will require that these costs be reimbursed out of higher rates during the first few years, or that some combination of these theories be adopted. In the present case in giving consideration to Mr. Cory's estimate it should also be borne in mind that on January 1, 1910, being some two and one-half years after the Gas Company took over the plant, a dividend of \$10,000 out of surplus earnings was declared, and that the amounts which have been charged off to depreciation have admittedly been larger than necessary. In finding the value to be used as a basis for fixing rates in this case I shall give due consideration to the element of going-concern value.

It is impossible to tell from the Commission's final conclusion as to fair value just what consideration has been given to the element of going-concern value. The Commission states that it has considered the various elements of value enumerated in *Smyth v. Ames* (169 U. S. 466), but makes no specific findings as to original cost, reproduction cost, accrued depreciation or going value.

§ 1355. Chicago telephone appraisal.

In his report on the rates of the Chicago Telephone Company ¹¹ Professor Bemis discusses a claim to cost of developing the business, based on the reproduction method, as follows (at pages 41-42):

The appraisers give further explanations and elaborate computations to show how, if a company started a new plant in Chicago to-day, with a field clear from competition, it would cost \$7,000,000 to develop the business of the present company. In other words, the appraisers are seeking to estimate what is usually considered a form of "going value" based on a 10 per cent return on the investment in the developing plant. Byllesby and Arnold prefer to call this by another name. It is the idea rather than the name that is important.

The theory assumes, although it does not directly state, that the people of Chicago are to forget their knowledge of telephones and must be solicited, at much expense, in order to become acquainted with them. To imagine such a condition of sudden collapse of memory in this or any other city might be natural to builders of air castles or to the well-nigh extinct type of pure theorists among college professors who have been so much of a butt of ridicule among "practical men," but it seems curious when coming from prominent engineers. If Chicago were suddenly bereft of all telephone service by a San Francisco earthquake or some other catastrophe, the present subscribers would need no soliciting to resume the service at the very earliest possible moment. Indeed, one of the notable features of Chicago telephone history has been the almost entire absence of expense for soliciting of new business. In this respect it more closely resembles the street railway than the lighting utilities.

It is indeed true that without business the physical plant would only have a scrap value. The cost of construction of the plant, even if it be \$40,000,000, would not give value without a demand for the service. In assuming a demand sufficient to

¹¹ Report on the investigation of the Chicago Telephone Company submitted to the Committee on Gas, Oil and Electric Light by Edward W. Bemis, October 25, 1912.

give a value equivalent to the cost of the physical property, a certain type of going value is thereby generally conceded.

If the courts shall insist upon allowing public utilities a further value beyond the investment, our public service commissions are likely to reduce the rate of return correspondingly, leaving to the companies but little more than just enough to escape the charge of ordering a confiscatory rate.

Professor Bemis made a study of the earnings of the company throughout its history, and found that it had earned a fair if not liberal return on its actual investment. He concluded, therefore, that there should be no allowance to fair value to cover the cost of developing the business.

§ 1356. Commonwealth Edison Company, Chicago—Allowance for free wiring and consolidation costs.

In 1913 an investigation and report on the rates charged by the Commonwealth Edison Company was made to the City Council of Chicago by Ray Palmer, city electrician, and John E. Traeger, city comptroller. The report fixes the fair value of the property of the company and recommends a reduction in existing rates of charge. In regard to estimates of going value based upon the comparative-plant method, the report says that "the number of assumptions necessary to compute going value on this basis renders it unreliable and ordinarily precludes its use except for comparative purposes." In regard to an estimate of going value based on uncompensated losses in establishing the business, the report says (at page 40): ¹²

Before this method can be applied with any degree of fairness, it should be evident that the records have been carefully kept

¹² Report to the Committee on Gas, Oil and Electric Light of the Chicago City Council on the investigation of the Commonwealth Edison Company, by Ray Palmer, city electrician, and John E. Traeger, city comptroller, May 14, 1913.

and can be substantiated, that the plant has been carefully managed, and that the original investment was wisely made so that a premium is not placed on bad judgment or mismanagement. It should also be understood that the period over which this method of computing going value is calculated should be limited to what might be called the original development of the utility.

The report makes no allowance for going value properly considered, but does allow an item of \$3,247,000 to cover the cost of free wiring and the cost of buying up competing properties in excess of the tangible property received. In regard to free wiring the report says (at page 45):

Included in the cost of getting business is an item representing free wiring amounting to \$575,700. Free wiring prior to the company appraisal consisted mostly of price concessions on wiring of premises for prospective customers. In character of expenditure these concessions are similar to expenses incurred in cutting through paving which create no property value for the company but are necessary in order to supply service. Because of the tangible character of the investment and in accordance with the principles previously discussed and cases cited, the item of \$575,700 for free wiring is included in capital. The so-called free wiring done at present represents cost of wiring signs, Tungsten fixtures, posts, etc., and the value thereof is returned in the service charge.

The report refuses to include an allowance for expenditures in promoting the business of the company, as it holds that such expenditures have been paid out of operating expenses. The report says (at page 45):

No allowance has accordingly been included in capital value for advertising and soliciting, because, in brief, this expense has been borne by consumers, with no loss to the company, and it would be grossly unfair to now capitalize such contributions from which the company as well as its patrons benefited, and thereby penalize consumers a second time, as would in effect

be done if they were required to pay an interest return on such a capital allowance.

Under the name of "good-will" the company's appraisal included an allowance for the cost of buying up competing companies. This allowance was made up of the difference between the price which the company paid from time to time for companies either in direct competition or in a position for prospective competition and the computed value of the useful physical property acquired in such purchase. The report considers this a proper allowance, with the exception of the price paid for acquired properties for which the company received no tangible property whatever, or, in other words, the price paid for franchise only. The report says (at page 43):

The net figure for the cost of acquired properties as of June 1, 1908, is \$3,224,256. This amount has been included in capital value because it represents, so far as can be ascertained, capital spent in good faith for property and business, the acquirement of which has been of undoubted benefit to the present-day user of electricity.

§ 1357. Georgia Commission—Cost of attaching business should not be capitalized.

Application of the Macon Railway and Light Company, decided February 24, 1914,¹³ involves a valuation for rate purposes by the Georgia Railroad Commission. The Commission holds that in so far as going value includes the actual expense of attaching business it should be recognized in the rates allowed for a sufficient period of time to reimburse the company for such expense, but that such expense should not be capitalized or considered a part of the fair value of the property for rate purposes. The Commission says (at pages 1085-1086):

¹³ 29 A. T. & T. Co. Com. L. 1072, Georgia Railroad Commission.

The question of "going value" has been much discussed, by courts and commissions, during the past few years. It arises in three distinct classes of cases, to-wit, capitalization issues, in rate applications, and in sale or purchase transactions. The principles applying in one class have sometimes been applied to the others. In our opinion there are important distinctions, particularly between capitalization and purchase or sale cases, and rate-making cases.

It is well to have clearly defined just what is meant by "going value" or "going-concern value." As we understand the term, it means a value due to the fact that a plant has consumers actually using its product; that it is in actual and successful operation, and has attached to it a developed business. As we understand, the claim in this case is that to actual physical values there should be added a sum representing the value of this business and the expense incurred in attaching it.

In a rate consideration we distinguish between the value of the attached business, as a property addition, and the actual cash outlay made in attaching the business. The Commission will not allow as added property upon which returns should be perpetually paid by the public the value of the established business. We do not mean to say that we have in reaching conclusions as to values hereinafter stated treated certain physical properties as individual, disconnected units. We have considered them as integral and essential parts of a completed, perfected plant capable of and ready to serve. In these values we have included overhead charges, such as organization, engineering, contractors' profits, reasonable promotion expenses, legal expenses, interest during construction, insurance, etc. In so far as "going value" includes such elements as actual expense of attaching business, we believe that it should be recognized in the earlier or beginning rates of a public service corporation and for a sufficient period to reimburse the company for such reasonable expenditures. This is done when such expenses are carried, as they should be and are, in operating expenses. But to allow them in "operating expenses" and at the same time add fixed values to physical property values and

tax the public perpetually to afford a return thereon is contrary to our convictions of right.

§ 1358. Maryland Commission—Allowance refused for early losses occasioned by competition.

*Bachrach v. Consolidated Gas Electric Light and Power Company of Baltimore*¹⁴ is a rate case. Although the Maryland Public Service Commission made a valuation of the property of the company, such valuation did not have a very important bearing on the conclusions reached. The Maryland law provides that so far as possible the Commission shall not disturb the value of the company's bonds. In the present case the rate fixed was based largely upon a consideration of the amount required to safeguard the value of the bonds. The company claimed that early losses occasioned by competition and other causes should be included in fair value for rate purposes. The Commission discusses this question and concludes that in the present case there is insufficient evidence to justify an allowance under this heading. The Commission says (at pages 166-167):

Early losses in both the gas and electric divisions are urged as proper items for capitalization, especially where the losses have been caused by competition which the public not only permitted but encouraged. But there are two sides to this aspect of the subject. The public is not apt to quarrel with service which is in the main satisfactory—and was probably less so in the early days of gas corporations—and while there doubtless were some interests jealous of the success of the pioneer company and anxious to share its field of profit, it may well be that its attitude toward the public and its efforts to serve were such as to create a feeling of discontent and resentment and open the door to competition. In other words, in the absence of proof of the causes which led to the formation of the rival enterprise, it is unfair to charge the public of that day with the whole respon-

¹⁴ 14 A. T. & T. Co. Com. L. 154, January 13, 1913.

sibility for competition and to place all of the resulting burden upon the shoulders of the public of to-day. Moreover, the possibility of competition was one of the risks which capitalists of those days knew they must face, and for a very considerable period of time rate wars in all kinds of public service corporations were common occurrences for which, in the long run, the public paid an enormous price.

If we were dealing with a case in which the affairs of a corporation were matters of record from the beginning and the losses were known to be such only as resulted from the indisposition of a community to change from old to new methods, some means of recoupment, either by conservative capitalization or by an allowance in rates which would by degrees pay the passed dividends, might be permitted. This was generally the condition with which the Railroad Commission of Wisconsin dealt in the cases upon which the respondent company herein relies. We are asked to do so upon what seems to us to be insufficient evidence to justify, upon the terms stated, the claim which has been urged with so much ability and earnestness.

§ 1359. Massachusetts Board of Gas and Electric Light Commissioners—Haverhill gas rate case.

Re Haverhill Petitions,¹⁵ December 31, 1912, involves the rates of charge of the Haverhill Gas Light Co. In this case the Massachusetts Board of Gas and Electric Light Commissioners refuses to include an allowance for going value. The Commission says (at page 334): "The Board can not, in the general interest of consumers, discourage the reasonably liberal provision for the future which this company seems to have made, neither can it concede the company's claim that franchise or going-concern value should form a part of that property on which a reasonable return should be based."

§ 1360. Michigan Commission—Capitalization of estimated early losses.

The application of the Northern Michigan Power Com-

¹⁵ A. T. & T. Co. Com. L. 324.

pany ¹⁶ involves an approval by the Michigan Railroad Commission of the proposed capitalization of a hydro-electric enterprise. The Commission held that in view of the operating deficits which commonly accompany the early operations of public utilities the best interests of both the corporation and the rate-paying public would be served by allowing a reasonable sum to be added to capital in the first instance, to meet the cost of establishing the business. Commissioner Hemans in delivering the opinion of the Commission discusses this question as follows (at pages 255-257):

The problem involved in the question of allowance for initial operating deficit, or what is more generally described as cost of securing going-concern value, is far more difficult of solution. It is the reasonable contention of petitioner that upon the completion of its facilities, under the most favorable conditions, it can not anticipate business and resulting revenue sufficient to pay operating expenses, care for depreciation, and make a return upon the capital invested. That, on the other hand, it must anticipate a deficit of the amount by which its earnings fail to meet this adequate return; that this deficit constitutes the cost of building up the business of the concern; that in their totality they must be contributed by the stockholders; that it forms an integral part of the investment, and may as justly be capitalized as capital contributed for the creation of the physical facilities, as loss of interest during the period of construction.

Authorities of equal eminence are not in accord as to whether such deficits should be capitalized and thus made a permanent charge, or whether they should be carried as a liability of other form and gradually written off from the earnings when these earnings have so increased as to leave a surplus over and above the amount necessary for the maintenance of the utility. . . .

Without entering at length into an elaboration of the reason-

¹⁶ 19 A. T. & T. Co. Com. L. 244, June 11, 1913, Michigan Railroad Commission.

ing used to support either theory, we give our approval to the proposition stated in the question made.

This question, so far as adjudicated cases are concerned, had received its principal discussion in cases involving reasonable rates. It is a question that has generally been considered in retrospect rather than in prospect; from the standpoint of reasonable rates rather than from the standpoint of capitalization. Where a given utility has been constructed with economy, timed in its operations to meet an adequate demand for its output and promptly enabled to earn fair to large profits at reasonable rates, reasons have been found to justify a very different rule as to going-concern value from the rule which should in principle be imposed in the case of another utility, timed in its construction upon a miscalculation of public need, subject to destructive competition or the many conceivable causes that would give it a going-concern value of less than the investment. Both cases are perhaps to a degree abnormal. In the one case the amortization of the operating deficits from surplus earnings would be clearly justified, while in the latter case to so require would be to so increase rates as to still further curtail an already scant corporate return. Such cases, which because of the dissimilarity of their basic conditions give rise to divergence of views as to the principle which should govern, to our minds are peculiarly for the consideration of the authority in the state vested with the regulation of rates. Boards or commissions acting in rate regulation, with all the facts before them, are in a position to adjust all abnormalities in a manner fitted to each particular case.

This but emphasizes the necessity for a uniformity of treatment for the great general average of cases by authorities regulating capitalization in the initial stages of corporate development. In view of the condition with which common experience shows practically every public utility is confronted in acquiring business in the early months of its operations, we believe that the best interests of both the corporation and the rate-paying public will be served by allowing a reasonable sum to be added to capital in the first instance to meet the cost of acquiring business. The sum so allowed should not be so large

as to encourage waste, improvident investment or to even provide for all possible deficits from initial operations, but it should be large enough to encourage investments that are economically sound and which will result in the needed development of the state's material resources. The sum allowed should be treated as an investment—an investment, to be sure, in things that are intangible but as necessary for the creation of the active moving business as the money invested in the physical facilities. To provide this sum, we believe that a sum equal to 7 per cent on the estimated cost of the development is a reasonable allowance in advance of operations. If time demonstrates that because of unusual or peculiar conditions this allowance is insufficient, the authority then exercising control will be in position to make proper adjustment of the problem by either requiring it to be paid from earnings or added to capital as the best interests of the utility and the public may dictate. In accordance with these suggestions, the amounts which we believe should be allowed in the capitalization may be summarized as follows:

1. Lands and flowage rights	\$1,450,000
2. Construction	4,275,701
3. Overhead charges	1,520,396
	<hr/>
	\$7,246,097
4. For operating deficits	507,226
	<hr/>
	\$7,753,323

§ 1361. Nebraska Commission.

Re Application of Lincoln Telephone and Telegraph Company for Authority to Increase Rates¹⁷ involves the valuation of a telephone plant for rate purposes by the Nebraska State Railway Commission. The Commission did not in this case allow a going value, but stated that such value might have a proper place in determining fair value

¹⁷ 19 A. T. & T. Co. Com. L. 134, June 26, 1913, Nebraska State Railway Commission.

for rate purposes under certain conditions. The Commission says (at page 143):

The company contends that it is entitled to earn a return upon the reproduction-new value of its property, plus "going-concern value," defining it as that value which is produced through the cost of establishing the business. Many of our regulating bodies are recognizing and giving consideration to such values. This Commission, while recognizing that this element may have a proper place in the basis of values for rate-making under certain conditions, which would necessarily vary with the history of every corporation coming before it, is not yet prepared to accept it. The increase in revenue prayed for by the petitioner does not require that this need, at the present time, be taken into consideration, and the Commission will withhold its views on the subject until it shall have more fully analyzed the fundamental principles and various theories on which such values should be based.

§ 1362. Nevada Commission—Allowance for going value disapproved.

The case of *City of Ely v. Ely Light and Power Company*¹⁸ involves the valuation of an electric plant for rate purposes. The Commission refuses to include in fair value an allowance for good-will or going concern. The Commission deems it unjust to require the people of Ely to pay a return on an intangible value that would clearly have no existence except for the patronage of the people of the city. The Commission says (at page 590):

The respondent company very strongly urges that the "good-will" and "value of the business" as a "going concern" should also be taken into account. No data is furnished upon this point, and here again, if we were to consider those elements as additions to the aggregate value of the property employed, it could only be upon the basis of loose conjecture. But there is

¹⁸ 24 A. T. & T. Co. Com. L. 578, June 7, 1913, Nevada Public Service Commission.

another reason for rejecting this claim. It is this: The respondent company has practically a monopoly of the business now under consideration. The people must patronize the utility, even though there may be a total absence of "good-will," and in such case the expression "going concern" merely spells monopoly. Private parties in transferring a business may consider such elements and give them an estimated value, but it is too uncertain and indefinite to receive weight in this case, or, in fact, generally, in the regulation of utilities where the utility is in the enjoyment of a monopoly.

It must be borne in mind that absolutely all the value which the respondent's plant has results from the patronage of the people served. Should Ely and East Ely both go out of existence, the respondent's property would be almost valueless. It does not own the water right, and the structural property—meaning buildings, poles, wire, machinery, etc.—would only be worth their salvage value. The right of way would lose all value. We are therefore unable to see any reason why the people of Ely should be required to pay rates which would yield a fair return upon the respondent's actual investment, with additions for various intangible considerations, the value of which it is utterly impossible to estimate with any degree of accuracy, and which, indeed, would have literally no value were it not for the patronage of the people of Ely. To require the city of Ely to pay rates which would afford a return fair upon the value of contractual rights, the "good-will," and the value of the business as a "going concern" is to require that city to pay a return upon values that would be altogether non-existent were it not for its (the city's) patronage.

§ 1363. New Hampshire Commission—Actual cost of establishing a paying business—Early losses may not be capitalized.

The New Hampshire Public Service Commission in passing on the application for the sale of the Berlin Electric Light Company¹⁹ bases its conclusions as to

¹⁹ 3 N. H. P. S. C. 174, 21 A. T. & T. Co. Com. L. 781, August 30, 1913.

the value of the property to be transferred chiefly on a consideration as to what would be fair value upon which the company should be allowed to earn a return in a rate case. The Commission discusses at considerable length various elements and facts to be considered in determining fair value for rate purposes. The Commission holds that both justice and authority require that proper allowance should be made for going-concern value. Such allowance should not be a hypothetical estimate of the cost of reproducing the business, or even an estimate of the actual cost of securing all the business at present connected with the property, but the allowance should be limited to cover cost of putting the business on a paying basis. Where such costs are not definitely ascertainable, the Commission holds that no separate amount should be designated as going value, but that in fixing the final value to be placed on the entire property the general financial history and business of the company should be considered and the value fixed upon the entire property as a going concern. In the case under consideration it seemed clear that no considerable amount had been expended by the stockholders in building up the business, and the Commission held that no particular weight could be attached to going concern value in the absence of sufficient evidence to clearly establish such value. The following is from the discussion of the Commission (at pages 209, 210-211, 215-216, 217-218):

That a proper allowance must be given to the so-called going-concern element in placing a value upon the property of any public service corporation has been repeatedly held, and we believe is required by considerations of justice as well as by authority. The more difficult question to settle is the principle upon which such allowance should be made. . . .

The question which must be determined, before any intelligent allowance for the item under discussion can be made, is

whether the allowance shall be made to cover the cost of securing all business connected with the property appraised, or to cover the cost of bringing the property to that point where the owners might obtain a fair return upon their prior investments, including dividends foregone.

Upon this point there is no uniformity in the decisions of courts or commissions. Many cases may be cited which apparently are authority for the first course, but those cases ordinarily are not rate cases, and so far as we have found (with the exception of the Public Service Gas Company case decided by the New Jersey Commission) the propriety of confining the allowance to an amount representing the actual cost of bringing the business to a paying basis is not discussed.

If the justification for allowing to the owner of the property devoted to public use something in addition to a return upon the amount which the physical properties would cost to reproduce, or which they originally cost, is sought, it will be found in the fact that a failure to make such allowance would result in leaving the owners deprived of any income upon their property during a period of time while it was devoted to public use—that is, during the period while the business was being brought up to the point where a fair profit could be earned.

Justice requires that one devoting his money to an investment in a public service property (assuming the enterprise to be well conceived and well managed) shall receive a fair return upon that property during all the time that it is devoted to public use—during the first year as well as succeeding years—and that he shall receive as well a return upon the amounts necessarily spent in getting the business upon a paying basis. If the return were reckoned only upon first investment, a fair return could never be secured on the amounts expended in building up the business or on the amount of dividends foregone in early years. Accordingly, it has been held that some allowance should be made on account of business attached to the property. This has come to be called “going-concern value.” But it is nothing new. Consideration of the business attached to a property is merely consideration of the earning power, which the United States Supreme Court in *Smyth v.*

Ames held must always be taken into consideration and given such weight as is "just and right in each case."

It would seem that the weight which it is just and right should be given to the earning power of property in any given case, or to the amount of business attached to the property which gives it that earning power, may depend very largely upon what it has cost the owners of that property to produce that business or earning power. Many decisions give support to this view. . . .

It will be noted that in all these cases the justification for the allowance of an item for going-concern value is found in the early losses and expenses incident to building up the business, including returns not received upon investment in early years.

We believe that there is no constitutional rule nor any equitable reason requiring an appraisal of the entire expense of building up all of the business connected with a utility property, in a valuation of the same, upon a strict reproductive-cost basis, but that much weight should be given to the amount which the building up of such business, in the way it has actually been built, has actually cost the owners of the property, either in money originally invested by them or in returns not received upon their investment in early years.

When it is practicable to show what such costs have been it is well to ascertain and state the same, like other costs, as accurately as may be, for consideration with other facts bearing on the question of the ultimate value of the entire property; but where such costs can not be ascertained, we think that nothing is to be gained by setting up an item assumed to represent the same, whether that item has been reached by a computation based upon assumptions as to the cost in early years, and the rapidity with which the business was built up, or upon a computation based upon an assumed relation between the cost of building up business and the cost of plant structures—matters having no apparent relationship to each other. In such case the general financial history of the property so far as known, its earning power under reasonable rates, the amount of business which it does, the operating charges, and other pertinent facts should all be considered, and a final value fixed upon the entire

property, not as upon a collection of dead units, but as upon a going concern doing the business which in the particular case it appears that it does. . . .

There is no evidence in this case disclosing the amount expended for any of the purposes enumerated in the allowance contained in Sanderson and Porter's appraisal for "development costs and going-concern costs." We should hesitate to hold that the efficiency of trained employees, who are free at any time to seek other employment, can be capitalized and added to the value of a utility property, either for the purpose of swelling the transfer price or increasing the measure of a fair return. But irrespective of that question, we are satisfied that the amount of suggested allowance is greatly in excess of the total sum ever expended for the various purposes indicated, regardless of the source from which it came; and we believe that it is also clear, at least in the case of the Cascade company, that no considerable amounts have been expended by the stockholders in building up the business either in direct advancements or in dividends foregone. . . .

There is no evidence from which we can determine the facts in connection with the early financial history of the Berlin company. It appears that since the present owners acquired the property, about five years ago, no dividends have been paid, but it does not appear that dividends have not been earned. . . .

If especial weight is to be claimed for the going-concern element on account of alleged failure of returns in earlier years, evidence should be introduced so that an intelligent finding upon that point may be made.

Petitions of Grafton County Electric Light and Power Company¹⁹ is a case coming before the New Hampshire Public Service Commission, and involves an authorization to purchase certain property and to issue securities therefor. As in the Berlin case, the Commission holds that in general a proper capitalization is to be determined

¹⁹ 28 A. T. & T. Co. Com. L. 533, February 3, 1914, New Hampshire Public Service Commission.

by the same rules as used in fixing fair value for rate purposes. On account of the excessive price at which it was proposed to transfer and capitalize the properties the Commission denied the application for such transfer.

The Commission states that in view of the lack of definite evidence it can not attempt to estimate separately the going value of the plant. The Commission rejects the petitioners' contention that going value is synonymous with earning power or commercial value. The Commission says (at pages 545-546):

A going concern value is also claimed, though no attempt is made to estimate its amount, and no evidence is adduced upon which specific findings could be based. The item is of course a proper one for consideration, but in view of the lack of definite evidence we can not attempt to estimate it separately. . . .

The petitioners' counsel seem to treat going-concern value as synonymous with earning power or commercial value, and enter into elaborate calculations of the earnings of the two companies, compared with their proposed capitalization, and comparisons of their rates with rates of other companies in the state. The trouble with this reasoning is that it assumes that the existing rates are reasonable, because they compare favorably with rates elsewhere in New Hampshire. But this by no means proves that the rates are not too high. They may be too high everywhere. Or they may be reasonable elsewhere and too high here because producing a return disproportionate to the value of the property. We can not assume that the rates are reasonable until we know the value of the property. And if we use the return under existing rates to establish the value, we at once find ourselves traveling the old familiar vicious circle, proving value by rates and rates by value. Capacity for earning a comparatively large net income upon a small investment has an important bearing in determining the return which the company should be allowed to earn. But that is another question.

In the Matter of the Petition of the New Hampshire Water and Electric Power Company²⁰ a claim was made for a capitalization of interest on investment after operation had begun and while the company was building up its business. The Commission disallowed this claim, holding that its allowance would be equivalent to permitting the company to pay dividends out of capital, which was contrary to the state statute. The Commission says (at pages 102-103):

We think the actual period of construction proved to be more nearly one year than ten months. Upon what theory it is proposed to include with construction interest an amount for interest upon the investment while the plant is building up business we do not know. Such an item would not be in fact construction interest, but would represent a part of the cost of building up the business, and is one of the elements which in rate cases is ordinarily included in the so-called going value. It could only be included in the capitalization of a new plant upon the theory that sufficient capital should be authorized to allow the payment of dividends out of capital until sufficient business was developed to allow their payment out of earnings. But since the passage of chapter 98 of the laws of 1913, dividends may lawfully be declared only out of net corporate income. Construction interest can be reckoned only during the period of construction.

§ 1364. New Jersey Commission and Supreme Court—Going value allowed.

Re Rates of the Public Service Gas Company²¹ involves the valuation of a gas plant for rate purposes by the New Jersey Board of Public Utility Commissioners. For the purposes of this case the Board considered as practically synonymous the terms “going value,” “going-concern value” and “value of all intangible property.”

²⁰ 3 N. H. P. S. C. 91, 24 A. T. & T. Co. Com. L. 617, August 1, 1913.

²¹ 1 N. J. B. P. U. C. 433, 15 A. T. & T. Co. Com. L. 354, December 26, 1912.

The Board made a lump allowance to cover all preliminary or developmental expenses including the securing of franchises, promotion and organization, brokerage, discount, early deficits and the cost of getting new business. The Board estimated that the cost of all these intangible elements was about equal to 30 per cent of the cost-new of the physical property. The allowance for all intangible values was fixed at \$1,025,000. The total valuation including intangibles, working capital and the present value of the physical structures was \$4,750,000.

The Board rejected various rule-of-thumb methods for the determination of going value and also an estimate of the cost of reproducing the business based on hypothetical conditions. The following is from the decision (at pages 468-469, 480):

At the very outset two questions arise that require answer: First, Can a public utility have any excess in value over and above the value of its tangible belongings? This query, moreover, presupposes that the excess value, if any, is wholly distinct from any capitalized earning power predicated on a future setting of rates higher than required to afford a just return. . . .

Our answer to the first query is in the affirmative. There is such a thing as "going-concern value." Mr. Forstall testified (Evidence, pages 98 to 104):

"A plant with business attached has a value greater than the value of the mere plant without the business attached. . . . Now you don't get the business by simply putting in a physical plant. The getting of the business is entirely a separate thing. You have got to either spend actual money or lose interest on your investment for a long time. There is no gas business that ever started new that made money right away."

The "going-concern value" will then be largely represented by the cost of developing the business as distinct from the cost of securing the physical structure. This going-concern value may include the cost of soliciting business, cost of advertising,

cost of inducing consumers to take service, cost of exhibiting appliances, cost of occasional free installation, and also the dearth of adequate returns during the early developmental years of the company. Depreciation unearned in this period may also sometimes be included in "going-concern value." Indeed the term "going-concern value" or "going value" may be employed to cover the total value of a company's property over and above structural value. . . .

Our finding of \$1,025,000 as the value of all intangible property of any kind involved in the present case is all-inclusive. It is intended to cover and does cover the value of all the company's property upon which they are entitled to a return, except only the physical, tangible or structural plant, and associated plant assets, such as working capital. Under this appraisal, therefore, we include everything that may be claimed by reason of preliminary or developmental outlay, including preliminary engineering and legal expenses, canvassing, incorporation costs, securing franchises, organization expenses to supervise expenditures during construction, all financing, bankers' commissions, discount on bonds, promoters' profits, preparation of mortgages, bonds or other securities, and the engraving of the same. We also include under said finding of the total value of intangibles all allowances properly to be made for all elements of cost arising during the early years of operation or thereafter, such as early deficits, if any, and inadequate early returns upon investment. And we expressly include under said finding as to the total value of intangibles the entire value of all franchises, primary or secondary, possessed or exercised by the company in the Passaic division; and also each and every other element of intangible property belonging to the company and used and useful in supplying gas in the aforesaid division. For good-will, we allow nothing whatever. The company, we understand, makes no claim for good-will. It seems well settled also that where a particular service is furnished by only one company within a given area the option of patronizing a rival public utility is absent; and that, under the circumstances, good-will, or the value of voluntary patronage where a competing service is available, does not exist.

The Board rejected an estimate of preliminary development expenses based on the supposition that such expenses would be confined to the first million dollars of investment and to the sales of the first two billion feet of gas in the first twenty or thirty years of operation. In regard to this method the Board says (at pages 474-475):

There is no evidence to show that in this case, or in cases generally, preliminary development expenses or early overhead charges would be confined to the first million dollars of investment. Why limit such charges to the first million dollars of investment? Or indeed why extend them beyond the first hundred thousand dollars of investment? Such an assumption is purely arbitrary, and unsupported by evidence. It must therefore be rejected. If there be an intangible value, such as going-concern value, legally a part of the company's property, it seems to us more reasonable to appraise it, in the absence of evidence to the contrary, as some proportion of the present investment of the company than as a proportion of the investment of twenty years ago. If it be argued that preliminary and overhead charges appertain more specifically to the early years of a company's operation, the rejoinder is not wholly unwarranted that similar charges are not impossible or improbable in later years, especially when these later years have witnessed combinations of earlier properties and great extensions of their operations. Moreover, the fact that approximately 40 per cent of the company's send-out represents business acquired within the past decade would indicate that the cost of acquiring new business must have been relatively heavier than in the earlier years of the production of gas in this district. It is true that the cost of new business in this last decade has been charged to operation and paid out of rates. But as we have indicated above, the business thus acquired must be regarded as a legitimate part of the property of the company. We can not equitably project back into the unregulated past a norm of prices that might to-day be regarded as fair and adequate, and assume that actual rates exacted in the past, in so far as they exceed what are now deemed fair, have not lawfully become the property of the

company. If these high rates in the past have been employed by the company to acquire an intangible property in the shape of extensive patronage, that expectation of patronage is theirs, and on its fair value the company is entitled to a return. It may or may not be a subject of regret that regulation was so long deferred; but deferred regulation is no excuse for refusing at present to allow a fair return upon what is the lawful property of the company.

In *Public Service Gas Company v. Board of Public Utility Commissioners*²² the Supreme Court of New Jersey upheld an order of the Board of Utility Commissioners reducing the rates of the Public Service Gas Company. The court upheld the Board's inclusion of an allowance for going value. The court says: "We think both on weight of authority and on reason there should be such an allowance." The court then cites as its authority six purchase or condemnation cases in which this element of value has been recognized. Judge Swayze discusses this subject as follows (at pages 657-658):

The cost of a gas plant includes not merely the loss of interest while the plant is in course of construction and is building up a paying business, but even in the case of an old-established plant, for the manufacture and distribution of a commodity to the use of which the public has become so accustomed that it seems a necessity, there must be loss while pipe lines are extended to await the coming of consumers as the city extends. There is the cost of securing and retaining customers, of encouraging the greater use of gas for fuel and for light by the introduction of new and improved appliances, the necessary loss attending experiments that promise improvement, the obsolescence of plant apart from that ordinary calculable depreciation which may be charged to current expenses instead of being capitalized, the expense that must attend and the additional value that arises from the uniting of separate concerns, and the organization of a great industry with a view to economical production,

²² 85 N. J. —, 87 Atl. 651, July 7, 1913.

and the cost of procuring capital for the original works or subsequent extensions.

What items should be charged to construction, what to business development, how much to current expenses, and how much to permanent investment of capital, are all most important practical business questions. However these questions may be solved, all these expenses must be met. Whether they shall be met at the expense of present consumers by being charged at once to current expenses, thus reducing the net return and making necessary a higher rate, or whether they shall be capitalized in whole or in part and constitute a permanent addition to capital, or be capitalized and gradually amortized, are business questions. The legal question is whether these items constitute a going value upon which the company is entitled to a return if the individual rate is to be just and reasonable. To this we answer, yes. . . . We think that if by value we mean what the economists call exchange value, then a buyer would undoubtedly give more for a plant already doing a profitable business than for a plant of equal cost, capacity, and future possibilities, but without the established business. To a purchaser the assurance of an immediate return is worth paying for, and we see no reason to doubt the correctness of the ruling of the United States Supreme Court in *Omaha v. Omaha Water Co.*, 218 U. S. 180, 30 Sup. Ct. 615, 54 L. Ed. 991. We agree with the view expressed for that court by Mr. Justice Lurton that "the difference between a dead plant and a live one is a real value, and is independent of any franchise to go on, or any mere good-will as between such a plant and its customers." It is true that that was a condemnation case and not a rate case, and involved, therefore, a question of exchange value, and not the question of a fair and reasonable valuation as between a public service company and the public. The two bases of valuation may properly be different, since upon a sale or condemnation the probability of an assured income and a continuance of the existing rates enters into and affects the exchange value; while in the case of a valuation for the purpose of fixing a rate the question is what valuation and rate will tempt the investment of capital, and to what extent existing rates may with justice be

lowered. In this view the fallacy of the argument on behalf of the cities is that it requires the investor to suffer all the loss if the enterprise fails, and deprives him of the chance of additional gain if the enterprise succeeds; and it fails to allow any recompense for the skill shown in developing and conducting the business or even for the value of experience, which is proverbially expensive. Even in a business as well established and as necessary as the gas business, there is competition with other methods of obtaining light, heat, and power, and there are few of us who have not ourselves had experience of the extension in the use of gas due to the efforts of the company to introduce new appliances. Moreover, we think counsel for the company are right in their contention that the value of an assembled and united plant may be greater than the total value of the separate parts. . . . The advantage of large scale production at a single plant over production on a small scale at several plants is too well known to require more than mention, and the getting together of property sufficient for the purpose no doubt may create a real value, which may fairly be allowed for in what is called "going value." We think going value was a proper item to allow. In the absence of specific facts as to the amount actually expended, we do not think the commissioners were required to accept the figures of Dr. Humphreys, Mr. Royce, or Mr. Miller. . . . No doubt fair-minded men may differ, but as the commissioners seem to have allowed the actual expenses proved, and permitted the whole to be capitalized, even when paid out as current expenses from current rates, we think no injustice was done in this respect.

The case of *Gately & Hurley v. Delaware and Atlantic Telegraph and Telephone Company*²³ involves the valuation of a telephone plant for rate purposes. The existing rates charged by the company were upheld by the Board, as they netted the company considerably less than the amount determined by the Board to be a fair return upon the fair value of the property. In this case

²³ 1 N. J. B. P. U. C. 519, 14 A. T. & T. Co. Com. L. 39, January 7, 1913.

the Board allowed \$797,800 upon a total structural cost of \$5,959,460 to cover the replacement cost of establishing the business. This estimate includes an allowance of \$513,100 to cover the estimated loss of profit during the four-year construction period; an allowance of \$152,000 for organization and development, including promotion expense, legal expense, organization of staff and incidentals; also an allowance of \$132,706 to cover the cost of obtaining subscribers. The company's claim for replacement cost of establishing the business was \$1,184,600. In regard to the justice of some allowance for this purpose the Board says (at pages 547-548):

It appears just and reasonable that a fair present-day estimate of the capital necessarily and judiciously sunk in establishing the business and not thereafter recouped from revenue should enter as an element into the base upon which a fair return should be allowed. Not to include such part of the outlay or investment as is necessarily and judiciously made at the start in canvassing for and enlisting customers, or as is necessarily and wisely incurred by reason of foregoing returns during the construction period when money is locked up, acts to repel future enterprisers from similar ventures. Not to allow a fair return on such outlay, when made, is to extinguish in part the value of the necessary investment requisite to afford service to the community as a whole. The allowance on this score must, it is true, be made with circumspection. Living consumers must not be held in the power of the dead hand stretched forth from the grave of fictitious or injudicious investment. Cognizance must be taken of the fact that the individual merchant ordinarily calculates his percentage of profit on his stock, not on his stock plus the good-will of his business. Cognizance must be taken also of the fact that an estimate of reproduction cost reflects in part the value attributed to a mechanism whose end is assumed to be the rendering of specific services, and not to become a mere pile of potential junk. But when all is said by way of abatement or allowance, the inclusion of a proper esti-

mate for the cost of establishing business, a cost quite distinct from the bare structural value of the apparatus, can not be gainsaid.

§ 1365. New York Commission, First District, and New York courts.

In considering going value the New York Commission for the First District points out that certain expenses often included in an estimate of going value are included by it in its allowances for overhead percentages and preliminary and development expense. "Value can not be made by the duplication of titles or the multiplication of names."²⁴ In so far as going value is used to cover provision for pioneer losses or failure to earn profits during a development of normal length the Commission holds that it should be taken into account in fixing the fair rate of return. In doing so the Commission properly distinguishes between valuation for rate purposes and valuation for purchase purposes. In a rate case the justice of the result does not depend upon the fair value alone or on the rate of return alone, but on the total return or net income allowed, which is the product of the fair value and the rate of return. In a rate case, therefore, certain equities may be provided for either in the fair value or in the rate of return. If they have been considered in the rate of return, it would be duplication to allow for them again in the fair value, and vice versa. These two factors are interdependent and must be considered together. "It is apparent that it [going value] can not be allowed in both places. If a reasonable amount were to be added to fair value, the rate of return must be lowered; and a small change in the rate of return upon the whole value of the property will more than offset a reasonable allowance for the indefinite elements included under the heading 'going value'."²⁵

²⁴ 2 P. S. C. 1st D. (N. Y.) 620.

²⁵ 2 P. S. C. 1st D. (N. Y.) 714.

In the case of *Kings County Lighting Company v. Willcox*²⁶ an order of the New York Public Service Commission for the First District, fixing the gas rates of the Kings County Lighting Company, was subjected to judicial review pursuant to a writ of certiorari. (For an abstract of the opinion of the Commission see § 567.) The Appellate Division of the Supreme Court reversed the determination of the Commission and remanded the matter to the Commission. The Court holds that there should be a proper allowance for going value, and states that if the Commission did consider going value in fixing the rate of return there was no proof of that fact in the record. Judge Clark in delivering the opinion of the Court discusses this question as follows (at pages 606-608):

It [the company] claims that as an established business there should have been added an item for "going value" of \$600,000, the smaller of the estimates given by its two expert witnesses. In condemnation cases this has been settled by the Supreme Court of the United States. . . .

It is true the question has not been directly decided in a rate case in the United States Supreme Court. . . .

I am unable to perceive a logical difference between allowing "going value" in the valuation of a plant when it is to be taken entirely by the public and allowing the same element when valuing the same plant for rate-making purposes. In each case the thing to be done is the fair appraisalment of present value. What difference in principle can there be because in one instance all is taken for the use of the public and in the other the public limits the earnings?

In the case at bar the Commission says it "disallowed this claim in determining fair value, . . . but did consider it in fixing the rate of return." If so, there is no proof of that fact in the record.

This case came before the Court of Appeals, and in its

²⁶ 156 App. Div. N. Y. 603, May 9, 1913.

decision of March 24, 1914, that court upholds the ruling of the Appellate Division in regard to going value and discusses the entire subject at considerable length. The Court holds that going value is made up only of uncompensated losses of the earlier years. If, however, such losses have been made up by subsequent profits in excess of a fair return, there is no going value. The amount of going value, whatever it may be, should be estimated and stated as a separate amount. The Court does not hold that it would be improper, in place of including such amount in fair value, to provide for its amortization through a rate of return higher than would be otherwise justifiable. Judge Miller says (at page —, 210 N. Y.):

It is now generally recognized that "going value," as distinct from "good will," is to be considered in valuing the property of a public service corporation either for the purpose of condemnation or rate making, but there is a wide divergence of view as to how it is to be considered. The Commission in this case says it was taken into account in valuing the plant as a "going" and not as a "defunct or static" concern and that it was also considered in fixing the fair rate of return. The Appellate Division says that there is no proof of the latter fact in the record. Thus the first question certified requires us to decide whether "going value" is to be appraised as a distinct item, or whether it is sufficient to regard it as something vague and indefinable to be given some consideration but not enough to be estimated. The valuation of the physical property was determined by ascertaining the cost-of-reproduction-less-acrued-depreciation. Preliminary and development expenses prior to operation were included, but no allowance was made for the cost of developing the business. By that method the plant was valued in a sense as a "going concern." In other words "scrap" values were not taken; but to say that that sufficiently allows for "going value" is the same as to say that "going value" is not to be taken into account. The problem is to determine what is fair to the public and the company. The public is en-

titled to be served at reasonable rates and the company is entitled to a fair return of its investment on the value of the property used by it in the public service. (*Smyth v. Ames*, 169 U. S. 466; *San Diego Land & Town Co. v. National City*, 174 U. S. 739; *San Diego Land & Town Co. v. Jasper*, 189 U. S. 439; *Minnesota Rate Cases*, 230 U. S. 352.) It would have been entitled to a return on the valuation adopted by the Commission, if it had no customers, but was just ready to begin business, whereas it had a plant in operation with an established business, which every one knows takes time, labor and money to build up.

If "going value" is capable of ascertainment, it will not do for the Commission vaguely to consider it in fixing the fair rate of return. That no appreciable allowance was made in this case is shown both by the rate fixed and by the following statement in the opinion of the Commission:

"It should be noted that the plant has been in operation for nearly twenty years, and it might be argued with considerable force that two decades should be sufficient for the company to recoup its early deficiencies below a fair rate of return, if any such deficiencies ever existed. If the company has not recouped itself by this time, under such circumstances it is doubtful whether the present consumers ought be burdened for this reason."

The first question certified then resolves itself into two heads: 1. Is "going value" a distinct item to be appraised and included in the base upon which the fair return is computed? 2. Was the evidence in this case sufficient to justify an allowance for it?

The opinion of Mr. Justice Clarke below saves me the necessity of citing and analyzing the cases bearing on the first branch of the question. We concur fully in what he has said on the subject and in his conclusion that there is no "logical difference between allowing 'going value' in the valuation of a plant when it is to be taken entirely by the public and allowing the same element when valuing the same plant for rate-making purposes." A case since decided should be added to the rate cases cited by him in which "going value" has been allowed, *i. e.*, Public

Service Gas Co. v. Board of Commissioners (87 Atl. Rep. [N. J.] 651).

It is no answer to say that in condemnation cases the exchange value is taken, and that that depends on the rates charged, the thing to be determined in rate cases. Of course a rule of valuation might be adopted in a condemnation case which would not work in a rate case; but if the cost-of-reproduction-less-depreciation rule be adopted, as appears to have been done in *National Waterworks Company v. Kansas City* (62 Fed. Rep. 853) and *City of Omaha v. Omaha Water Company* (218 U. S. 180), the leading condemnation cases in the Federal courts in which "going value" was considered, it is impossible to see why the "going value" could not be determined in both classes of cases in precisely the same way.

The difficulty of determining the "going value" will not justify the disregarding of it. Rate making is difficult. But that will not justify confiscation. The difficulty, however, will lessen, as it does in most cases, when we cease to think about the subject vaguely. What then, is "going value," and how is it to be appraised?

It takes time to put a new enterprise of any magnitude on its feet, after the construction work has been finished. Mistakes of construction have to be corrected. Substitutions have to be made. Economies have to be studied. Experiments have to be made, which sometimes turn out to be useless. An organization has to be perfected. Business has to be solicited and advertised for. In the case of a gas company, gratuitous work has to be done, such as selling appliances at less than a fair profit and demonstrating new devices to induce consumption of gas and to educate the public up to the maximum point of consumption. None of those things is reflected in the value of the physical property, unless, of course, exchange value be taken, which is not admissible in a rate case. The company starts out with the "bare bones" of the plant, to borrow Mr. Justice Lurton's phrase in the *Omaha Water Works Case* (*supra*). By the expenditure of time, labor and money, it coordinates those bones into an efficient working organism and acquires a paying business. The proper and reasonable cost of doing that, whether

included in operating expenses or not, is as much a part of the investment of the company as the cost of the physical property.

The investors in a new enterprise have to be satisfied as a rule with meager or no returns while the business is being built up. In a business subject only to the natural laws of trade they expect to make up for the early lean years by large profits later. In a business classified among public callings the rate-making power must allow for the losses during the lean years, or their rate will be confiscatory and of course will drive investors from the field. In the former class the value of the established business is a part of the "good will" and may be determined by taking a given number of years' purchase of the profits, or exchange value may be considered. In the latter case a different rule must be adopted.

Referring again to the Ames Case (*supra*) the public is entitled to be served at reasonable rates, and the corporation is entitled to a fair return on the property used by it in the public service, no more, no less, always assuming, of course, that the return is computed on a proper valuation. That was not made so by statute, but was the rule at common law, which justifies legislatures and commissions in fixing rates. If then a public service corporation has received more or less than a fair return, it has received more or less, as the case may be, than was its due, irrespective of whether a rate had been fixed by public authority. If a deficiency in the fair return in the early years was due to losses or expenditures which were reasonably necessary and proper in developing efficiency and economy of operation and in establishing a business, it should be made up by the returns in later years. If there was a fair return from the start, the corporation has received all it was entitled to, irrespective of how much of the earnings may have been diverted to the building up of the business.

To view the matter in another aspect, take the case of a public service corporation with a plant constructed just ready to serve the public. It is going to take time and cost money to develop the highest efficiency of the plant and to establish the business. Three courses seem to be open with respect to rate making, viz: 1, to charge rates from the start sufficient to make a fair return

to the investor and to pay the development expenses from earnings, a course likely to result in prohibitive rates except under rare and favorable circumstances; 2, to treat the development expenses as a loss to be recouped out of earnings, but to be spread over a number of years, in other words, as a debt to be amortized, that involves complications, but would seem to be fairer to the public and certainly more practical than the first; 3, to treat the development expenses, whether paid from earnings or not, as a part of the capital account for the purpose of fixing the charge to the public. The last course would seem to be fairest to both the public and the company, as well as the most practical.

It may be, as is urged, that a well-conducted enterprise will charge the cost of developing the business to operating expenses, and that it would open the door to an overissue of securities to permit the capitalization of early losses. In answer, it is sufficient to say that we are dealing, not with proper methods of bookkeeping, not with the proper capitalization upon which to issue securities, but solely with the fair return which the company is entitled to receive from the public. Treating a reasonably necessary and proper outlay in building up a business as an investment for the purpose of determining the fair rate of return to be charged is far from holding that it should be treated as capital against which securities might be issued.

We do not say as matter of law that the third course above outlined should be adopted as an original proposition. That may present a question of economics, depending on the particular conditions involved. The Commission in this case had to determine the rate to be charged, not by a new company with no business, but by an old company with an established business. The first question, therefore, to determine on this branch of the case was whether the company had already received a fair return on its investment. If it had received such return from the start, or if in later years it had received more than a fair return, the public would already have borne the expense of establishing the business in whole or in part, and to that extent the question of "going value" for the purpose of fixing a present rate would be eliminated; for it must constantly be kept in

mind in dealing with this problem that the company is entitled to a fair return and no more. If it has already had it, that is the end of the matter. If it did not receive a fair return in the early years owing to the establishment of the business, a subsequent rate must allow for that loss or it will be confiscatory. Now, no dividends appear to have been paid by the original company or by the relator prior to 1907. Assuming a reasonable need of the service from the start, and that the failure to pay dividends was not due to bad management, an accumulation of a surplus or undivided profits, the investment of earnings in permanent additions or betterments allowed for in the structural valuation, or to other causes besides those under consideration, none of which is asserted, it would seem plain that "going value" was an element in this case which the Commission was required to determine in making an appraisal on which to compute the fair return to which the company is entitled.

It is urged that an unprofitable business will thus have a greater value for rate-making purposes than one profitable from the start. That again overlooks the fundamental consideration that a public service corporation is entitled to a fair rate of return from the beginning of its investment and no more. If the shareholders have been deprived of a fair return on their investment because of the time and expense reasonably and properly required to build up the business, they have, to the extent of that deprivation, added to their original investment and are entitled to a return upon it. If, however, a fair return in addition to the expense of building up the business has been earned from the start, the public, not the shareholders, have paid the development expenses. We are dealing, not with exchange values, but with the value upon which the company is entitled to earn a return. In this connection it is to be observed that the statements in the opinions of the courts, in reference to computing the fair rate of return on present values, have for the most part been made in cases in which the precise question under consideration was not directly involved, and in which no attempt was made to limit the elements composing the problem. Manifestly a rate computed on the cost to-day of reproducing the bare plant would not be fair. Experience is

proverbially expensive. With the advantage of that experience the same or an equally efficient plant could be constructed to-day at a cost much below the actual and necessary investment of the company in both plant and experience. Indeed, wholly apart from the intangible thing called the going business, the reproductive value to-day of the physical property would not necessarily include the actual and legitimate investment in tangible property which may have been entirely replaced, not because of depreciation, but to meet advances in mechanical science, new conditions and increasing demands not reasonably to have been foreseen at the start. I am not now speaking of replacements made with fresh capital, about which there is no question in this case. The term "going value," though not exactly defined, has been used quite generally to comprise the elements not included in the structural value of the property in its present condition. The term is not important. The point is that in some manner and under some appropriate heading a due allowance must be made for the investment in those elements. No inflexible rule will in the long run be just both to the public and the corporation. The right to limit the corporation to a fair return fixed by public authority necessarily involves the correlative right in the corporation to be assured of that fair return during all the time that its capital is employed in the public service. The statute governing this case (Public Service Commissions Law, Cons. Laws, ch. 40, section 72) provides:

"In determining the price to be charged for gas . . . the commission may consider all facts which in its judgment have any bearing upon a proper determination of the question although not set forth in the complaint and not within the allegations contained therein, with due regard among other things to a reasonable average return upon capital actually expended and to the necessity of making reservations out of income for surplus and contingencies."

Of course a reasonable need for the service from the start and reasonably good management are assumed. While, within reasonable limits, service may be provided for anticipated needs, a company should not construct a plant in a wilderness and,

after a city has been built around it, expect to recoup its losses while waiting, nor should it expect to recoup losses from bad management. I do not include in the latter mere mistakes or errors in judgment which are almost inevitable in the early stages of any business. The fair return is to be computed on the actual investment, not on an overissue of securities, and the failure to pay dividends to the investors must be due to the causes under consideration, not to an accumulation of a surplus or to expenditures for permanent additions or betterments, which are included in the appraisal of the physical property; in other words, the actual net earnings are to be taken. Making proper allowance for the matters just considered and perhaps for others which do not now occur to me, I define "going value" for rate purposes as involved in this case to be the amount equal to the deficiency of net earnings below a fair return on the actual investment due solely to the time and expenditures reasonably necessary and proper to the development of the business and property to its present stage, and not comprised in the valuation of the physical property.

It may be conceded that going value has no existence apart from tangible property and that commercially there is but one value, that of the property as a whole, but as the rate can not be made to depend upon the exchange value, which would in turn depend upon the rate, it would seem to be necessary to appraise the physical property and the going value separately, and of course that is the case if the cost-of-reproduction rule be adopted.

It remains to consider how "going value" is to be appraised. That presents a question of fact, the determination of which is primarily within the province of the rate-making body. It is proper for this court, however, to indicate a permissible method or methods, as in *People ex rel. Jamaica W. S. Co. v. State Board of Tax Comrs.* (196 N. Y. 39) it indicated a rule for valuing a special franchise for taxing purposes, which has generally been followed.

Obviously the most satisfactory method is to show the actual experience of the company, the original investment, its earnings from the start, the time actually required and expenses incurred

in building up the business, all expenditures not reflected by the present condition of the physical property, the extent to which bad management or other causes prevented or depleted earnings, and any other facts bearing on the question, keeping in mind that the ultimate fact to be determined is not the amount of the expenditures, but the deficiency in the fair return to the investors due to the causes under consideration. The business in this case was twenty years old, the books of the old company were not available, and it is of course problematical whether, if produced, they would have shown the necessary facts. The question, therefore, had to be determined, as all questions of fact have to be, by the best evidence available. Here I may repeat that mere difficulty in the proof would not justify a confiscatory rate. The value of the physical property was shown by opinion evidence as to the cost of reproduction. The same kind of evidence was given by two witnesses for the relator as to the cost of building up the business to its present state. . . . There would appear to be as good ground for admitting the opinion of a qualified expert on such a subject as on the cost to reproduce the physical property. Of course the Commission was not bound by that evidence. It had in addition the experience of the relator and its predecessor as to payment of dividends, the amount of capitalization of both, and the value of the physical property in its present condition determined as above stated. With nothing opposed to those facts and the opinion evidence it was not justified in ignoring the evidence of "going value" or of merely attaching some inappreciable importance to it. (See *Bonbright v. Geary*, 210 Fed. Rep. 44, 54, 56.)

In determining the cost of reproduction the Commission allowed \$12,717 as the cost of restoring the pavement as it existed when the mains and service pipes were laid in the streets. The relator claimed an allowance of at least \$200,000 for the cost of restoring pavements subsequently laid on the theory that that cost would have to be incurred if the mains were to be laid to-day. But the new pavements in fact added nothing to the property of the relator. Its mains were as serviceable and intrinsically as valuable before as after the new pavements

were laid. The controlling considerations under the preceding point also determine this. The rights of the public are not to be ignored. The question has a double aspect. What will be fair to the public as well as to the relator? (*Smyth v. Ames*, supra.) Should the public pay more for gas simply because improved pavements have been laid at public expense? It is no answer to say that the new expensive pavements suggest improved conditions which, though adding to the value of the plant, will not, by reason of the greater consumption, add to the expense per thousand feet of the gas consumed. The public are entitled to the benefit of the improved conditions, if thereby the relator is enabled to supply gas at a less rate. The relator is entitled to a fair return on its investment, not on improvements made at public expense. It is said that the mains will have to be relaid. So will the new pavements, and much oftener. Both might possibly be relaid at the same time. The case is not at all parallel to the so-called unearned increment of land. That the company owns. It does not own the pavements, and the laying of them does not add to its investment or increase the cost to it of producing gas. The cost-of-reproduction-less-accrued-depreciation rule seems to be the one generally employed in rate cases. But it is merely a rule of convenience and must be applied with reason. On the one hand it should not be so applied as to deprive the corporation of a fair return at all times on the reasonable, proper and necessary investment made by it to serve the public, and on the other hand it should not be so applied as to give the corporation a return on improvements made at public expense which in no way increase the cost to it of performing that service.

The Appellate Division felt bound by the decision of the United States Circuit Court in the Consolidated Gas Case (157 Fed. Rep. 849), and it is true that such an allowance was made in that case. But the United States Supreme Court held in that case (212 U. S. 19) that the rate established was not confiscatory, and did not pass on the propriety of that allowance. What was said in the opinion on the subject of present value was merely a general statement having no necessary relation to the question now under consideration.

We agree with the Appellate Division that annual increase in the value of land is not income. Of course, under the rule of the Ames Case (*supra*), land might become so valuable as to require its use for other purposes and as to make a rate based on it unfair to the public. The present is not such a case.

The first question should be answered in the affirmative, the second, third and fourth in the negative, and the order of the Appellate Division, in so far as it remits the proceedings to the Public Service Commission, should be affirmed, without costs.

§ 1366. New York Commission, Second District—Allowance for going value, if any, should be made in the rate of return allowed.

*Fuhrmann v. Cataract Power and Conduit Company*²⁷ is a case involving the valuation of property of an electric company for rate purposes. In this case Chairman Stevens in delivering the opinion of the Commission discusses at considerable length the entire question of going value and also the distinction between rate cases and purchase cases as bearing on the treatment of going value. He concludes (at page 40) that "there is a fundamental distinction as to going-concern value between rate cases and cases of purchase." Chairman Stevens calls attention to the fact that inasmuch as the physical structures are not valued at their scrap value, but at their full value as parts of a going concern, a going-concern value in this sense has already been allowed. He says (at page 697):

The physical property of a plant of the character of that owned by the Cataract Company has no value other than scrap value except as a going concern, and when a proper allowance has been made for the value of the physical property, meaning thereby a proper investment value, including every element which goes into that, it must include an estimate for the property as a going concern; and the going-concern value is neces-

²⁷ 3 P. S. C. 2d D. (N. Y.) 656, 18 A. T. & T. Co. Com. L. 1015, April 2, 1913.

sarily represented in that estimate. The very act of giving a value to the physical property assumes that it is a going concern, assumes that it has a business, and that that business is in some degree related to the normal capacity of the plant.

Chairman Stevens then concludes that if any additional going-concern value exists in a valuation for rate purposes it must be considered as arising from either a deprivation suffered by the company in not receiving a proper return upon its investment at some prior period or in some expenditure which it has made for obtaining the business, which expenditure is separate and distinct from any expenditure made in putting its plant in a condition to render service. This may be summed up in money expended in attaching business to the property and abstention from or deprivation of dividends. He first takes up the question of money expended in attaching business to the property and concludes that such expenditures must be treated as operating expenses and can not be considered in any event in the investment of the property upon which the company is lawfully entitled to a return. He says (at pages 697-700):

Taking first the question of expenditures made in attaching business, it is universally recognized that it is proper for the company to claim reimbursement from the public for such expenditures. They are, however, universally recognized and treated as a part of the operating expenses. The company is obliged almost invariably to solicit business at the commencement of its operations and is equally obliged to continue the same during subsequent years. There is no year in which a well-managed company does not expend with greater or less liberality for the purpose of either holding business or acquiring new business. Such expenditures are recognized in the Uniform System of Accounts prescribed by this Commission as legitimate charges to operating expenses. •Accounts 552, 553, 554, and 555, prescribed for electrical corporations, provide for

promotion expenses incurred in the promotion or development of electric consumption, for advertising, for canvassing and soliciting, and for promotion, wiring, and devices. The respondent itself is constantly incurring such expenses and charging them to operation. It reported expenditures chargeable to this account in 1908, \$5,959; 1909, \$10,413; 1910, \$4,727; 1911, \$4,329. These figures are cited to show that the company is now incurring expenses for attaching business and has been incurring such expenses during recent years. These expenditures are, however, operating expenses, and must be treated as any other operating expense; and the question is whether in any event such operating expenses constitute an investment upon which the public is obligated either legally or equitably to pay a return the same as it is upon the fixed capital of the company. Obviously, if the earnings from the business have been sufficient to pay these operating expenses and no deficit or indebtedness has been incurred thereby, no just reason exists for claiming that any portion of them, whether incurred for advertising, soliciting, or any other purpose, constitutes a sum upon which the public must pay returns. It has already paid them the moment they have been charged to operating expenses.

If the earnings from operation have been insufficient at any time to pay the operating expenses, a different question may be presented, and it is this: Is the company entitled as a matter of either legal right or reasonable equity to have deficits in its operating expenses paid by the public? If these deficits constitute property which is invested in the business, then of course the public is legally obligated to pay a return thereon in order to avail itself of the services of the company. If the fact that the company has suffered a loss in operating expenses constitutes the amount of the loss a property investment in the business, it inevitably follows that the public must guarantee the company against loss from operation. No such principle has ever been laid down in any court and it is apprehended never will be.

There is, however, another view of the matter which should carefully be considered, and that is: Although the company may not have a legal right to have such loss treated as a part of its

property, still, as a matter of substantial justice, such loss may be considered in fixing the rate so that in order to obtain for the public service the company may from the rate recoup itself for such loss and be made whole. To state the matter in another form, the loss is not an investment in the business but it is a circumstance which may justify a higher rate when the business does become remunerative than would be just if no such loss had been incurred.

Clearly, there is a very marked distinction between treating such a loss as a property right upon which a return may be legally demanded as a consideration of service, or as a circumstance which may in fairness and equity require that the company should be given a rate which will enable it to reimburse itself for the amount thereof. That this distinction is real and substantial there can be no doubt. If the company in any given year has suffered such a loss in operating expense, and in the next year in addition to a reasonable and proper return has been repaid such loss, obviously it should not continue to be repaid the amount thereof during the succeeding years indefinitely. It should be repaid only once. . . .

The conclusion is, that so far as moneys actually expended in the past for attaching business to the property after the period of operation has commenced are concerned, they must be treated as operating expenses and can not be considered in any event an investment in the property upon which the company is lawfully entitled to a return. If this view is correct, they are no part of what may be termed going-concern value.

Chairman Stevens next considers the question whether a failure to obtain proper returns for capital actually invested constitutes a proper property right and an investment in the business upon which the company is legally entitled to a return. The conclusion is as stated above in relation to expenses of attaching the business, that there is clearly no such legal right. A failure to receive returns from a business is not an investment in the business. Chairman Stevens says (at pages 700-701):

Considering now the question of whether a failure to obtain proper returns for capital actually invested in the business either during an earlier or a later period constitutes a property right and investment in the business upon which the company is entitled to a return which can not be reduced below 6 per cent per annum upon pain of being considered confiscation, it is to be observed that this in another form is precisely the principle which this Commission refused to recognize in the case of the International Railway Company. In that case it was contended that the company was entitled to a reasonable return upon the assumed value of its property, and that when it failed to earn such sum as was deemed to be reasonable it was entitled to capitalize the deficit; and upon this process of reasoning it figured up a capitalization of about \$10,000,000, this capitalization arising wholly from a failure to earn what the company considered to be a proper return. The Commission declined to recognize this contention, observing, among other things, that it produced the somewhat curious effect that the greater the loss the greater the value of the property. The same remark applies here. If the company suffered no deprivation of dividends at the commencement of its operations, it has no going-concern value from this source. If, on the other hand, during the first years of its operations, it received no dividends, the argument is that it is entitled to capitalize the amount of a reasonable dividend as an expense which it incurred in getting the business started, on precisely the same ground that it is entitled to capitalize interest paid during construction.

Analyzing this contention, we must first observe that it is based upon the assumption that the investor has a legal right to a reasonable dividend upon the amount invested by him in the property, and that if the public fails to patronize his business sufficiently to pay that dividend in one year the patrons of the business thereafter must make it up and pay a return which will treat such loss as an investment in the business. As stated above with reference to operating expenses, clearly there is no such legal right. A failure to receive returns from a business is not an investment in the business. If the principle of failure to receive returns from the investment in the business constituting

a further investment in the business were to be applied throughout the country, the results would probably be somewhat startling. Whether it constitutes an equitable ground which may justly be taken into consideration and in the exercise of a just discretion allowed for in fixing a rate is entirely another matter.

The conclusion therefore is that deprivation of returns upon the investment after the operating period has commenced does not constitute an investment in the business and a property right which must be recognized as part of the fair investment value of the business and which must be recognized in the rate both for return upon capital invested and for destruction of capital.

Chairman Stevens then takes up the question of whether deprivation of return or loss of dividends and expenditures for attaching the business may be fairly and reasonably allowed for in the rate which is fixed although not included in the valuation of the property. He states that in order that such factors may receive equitable consideration they must be clearly proved and that there can be no just claim for reimbursement if such expenditures or such losses have already been reimbursed by subsequent earnings. In the case at hand the Commission comes to the conclusion that the earnings of the company have been adequate to cover all just requirements for expenditures in attaching the business and for deprivation of return in early years.

A similar conclusion was reached by the Commission in the case of *Fuhrmann v. Buffalo General Electric Company*, 18 A. T. & T. Co. Com. L. 1094, decided April 2, 1913.

§ 1367. St. Louis Commission—Expenditures to obtain business are not capital charges, but operating expenses.

The St. Louis Public Service Commission in its Report to the Municipal Assembly on the United Railways Company of St. Louis, November 19, 1912, discusses the proper

treatment of the cost of establishing a business as follows (at pages 54-55):

The cost of establishing business may be treated under either of two distinct theories. The first theory may be called "capitalization as an investment" and the second "recoupment as a loss."

Under the first theory it is assumed that all expenditures made for the purpose of obtaining business should be segregated from other operating expenses and held as a part of capital account. It is also assumed, if the business was not at first sufficient to pay reasonable investment charges on the full plant, that the deficit in returns should be charged to the capital account, on the ground that it was necessary to have the plant in existence and awaiting the establishment of the business.

Under a theory based upon these two assumptions, it is evident that in a successful enterprise the charges to capital account from the deficit in returns on investment would cease after the first few years of operation, but the capital account would continue indefinitely to be enlarged by additions to it from expenditures to obtain new business.

Under the theory of "recoupment as a loss," it is assumed that expenditures to obtain business are operating costs, and that deficit in returns are losses rather than permanent investment. This theory is the one under which the operations of public service companies have generally been treated in their accounts, and is the one which most naturally has been in the minds of the investors. It is also in most cases the only practical method of dealing with "cost of establishing business," and is the theory adopted in this case.

§ 1368. Washington Commission.

In *Re Valuation of Exchange in Spokane*²⁵ the Washington Public Service Commission determines the value of a telephone exchange under the general terms of the

²⁵ 25 A. T. & T. Co. Com. L. 892, November 1, 1913, Washington Public Service Commission.

Washington statute, and without specific reference to a particular purpose to be served by the valuation. The Commission states that "no consideration was given to the item of 'going value' in determining the cost of physical reproduction, as such an item is clearly not an item of reproduction cost, but rather an element of the value of the property, and as such it has been considered." The Commission found that it was impossible to determine the original cost. The reproduction-cost-new was found to be \$2,905,100, and the reproduction-cost-less-depreciation to be \$2,367,800. The Commission concludes that, "in consideration of all the evidence, the Commission finds the fair value of the respondent company's Spokane exchange plant as a going concern to be \$2,600,000."

§ 1369. Indiana Commission.

*Union City v. Union Heat, Light and Power Company*²⁹ is a rate case before the Indiana Public Service Commission, and involves a valuation of natural gas property. In this case the Commission makes no specific allowance for going value, holding that any early deficit had probably been recouped out of subsequent earnings. The Commission says (at page 70):

Going value is the potential business value, the amount of which must be determined by the net income which a plant in operation can produce, in excess of that which a substitute plant of like character can produce, the construction of which is begun at the time of valuation, the annual excess income being reduced to present worth. Thus while going value on one side depends upon the earnings of the plant being valued, it is dependent on the other side upon the rate at which it would be possible for a new or substitute plant to acquire business in the same, though a clear field, beginning with the

²⁹ *Union City v. Union Heat, Light and Power Company*, February 7, 1914, Indiana Public Service Commission (5 Rate Research, 69).

time the valuation takes place. In other words, it is the difference in earnings of the plant in question and the probable earnings of a substitute plant with all its business to acquire between the time of valuation and that time in the future when their revenues are supposed to become equal, that constitutes the measured going value. (Whitten, p. 502.)

It would seem that the respondent company in its long operation as a monopoly should have recouped itself for early deficits, during the formative period in its development, especially since it has had power to regulate its own rates, and it seems to have done this. Rates have been materially advanced at least four times and we must presume that their rates were so increased as to meet any deficit growing out of early operation and pioneer development. . . . In the *Cumberland Telephone and Telegraph Company v. City of Louisville*, 187 Fed. 637, the court holds substantially that if fair value for rate-making purposes is based on cost-of-reproduction-less-depreciation, due recognition is given to the fact that the property is a going concern.

CHAPTER XXIV

Treatment of Going Value by the Wisconsin Commission

§ 1380. Waterworks purchase case—General policy defined—Unrequited cost of establishing business.

1381. Sheboygan gas rate case—Consideration of relatively poor development of business.

1382. Limitations of early-deficit method and consideration of cost of reproducing the business.

1383. Criticism of comparative-plant method.

1384. Consideration of estimate of cost of reproducing a paying business.

1385. Cost of services and house piping.

§ 1380. Waterworks purchase case—General policy defined—Unrequited cost of establishing business.

Re Purchase Oshkosh Water Works Plant ¹ involves the valuation of a water plant by the Wisconsin Railroad Commission for purposes of municipal purchase. The Commission states its general policy in regard to the determination of going value as follows (at page 664):

Perhaps it may be said that when fairly normal conditions have prevailed, and when its use would not lead to a *reductio ad absurdum*, the Commission has followed the method of ascertaining as nearly as possible the unrequited expenditures made in establishing the business of the utility upon such a basis that the operating revenue becomes adequate to meet all the legitimate demands of the utility. The amount so arrived at, together with the reproduction value and present value of the physical property, present earnings, original costs, if known, and any other factors which have a bearing on the case, are weighed in arriving at a final value of all the elements of the property, tangible and intangible, considered as one harmoni-

¹ 12 W. R. C. R. 601, September 27, 1913.

ous entity, for which the company is to be compensated by the city.

In the present case the records as to cost of establishing the business were meager. The Commission made an estimate of capitalized value, starting with 1903, and found that in 1912 the capitalized valuation on a 7 per cent return basis was approximately \$580,000. The cost-of-reproduction-new was \$569,510, and the cost-of-reproduction-less-depreciation, \$510,953. The Commission found that the fair value of the plant for purposes of purchase by the city was \$525,000. In this finding the Commission took into consideration that the plant had not kept abreast of progress in the waterworks business, and that the filter plant was obsolete and inefficient. The Commission says (at page 670):

Bearing these facts in mind, as well as the present condition of the plant, the needed changes, its capitalized value on an unduly low depreciation rate, and also certain important features of the original franchise under which the company existed for most of its life, it is the judgment of the Commission that \$525,000 represents fair compensation to the owners of the company for the property used and useful for the convenience of the public, regarding that property as an entity.

§ 1381. Sheboygan gas rate case—Consideration of relatively poor development of business.

*Meyer v. Sheboygan Gas Light Company*² involves the valuation of a gas plant for rate purposes by the Wisconsin Railroad Commission. In regard to going value, the Commission says (at pages 446-447):

Computations that we have made show that the owners of this utility have not invested in the undertaking more than is represented by the present value of the physical property. For

² 9 W. R. C. R. 439, July 11, 1912.

this reason we conclude that little or nothing should be added in the way of going value to the value of the physical property.

The present value of the physical property is stated to be \$250,383 (page 466). The Commission states, however, that owing to the relatively poor development of the business of the company and the consequent higher cost of production it is a question whether the company should be allowed to earn a full return upon its full investment.

The company asked for a rehearing in this case, claiming, among other things, that the Commission had made no allowance for going value. On rehearing the Commission states that the company evidently believes that whatever it is earning is a proper measure of what it should earn, and that therefore going value should represent in some way a capitalization of earning capacity. The Commission refutes this contention (at page 315):³

The respondent complains that, in its earlier opinion, the Commission placed no going value on the business, regardless of its "gross earning capacity of \$55,770.48 in 1909 and \$72,170.70 in 1910." Evidently the respondent believes that whatever it is earning is a proper measure of what it should earn. It is perfectly plain that, were this the case, no basis for rate adjustment would remain. The law contemplates that the investor may earn, above normal operating expenses, a fair return upon a fair investment in the plant and business. In concluding what this fair investment and return may be the Commission is guided by the cost of reproducing the plant, its depreciated value, what the owners have put into the business, and many other conditions that surround its operation.

Tables V and VI, 9 W. R. C. R. 445-446, indicate the method followed in this case in finding what has been invested in plant and business. All loans or other advances of money by stockholders and officers, whether repaid or permanently retained, find their way into these tables if the disposition of these sums

³ *Meyer v. Sheboygan Gas Light Company*, 12 W. R. C. R. 309, decision after rehearing, January 15, 1913.

for operation or construction appears in the accounts of the company.

Following the methods of Tables V and VI, the cost of plant and business, including working capital, June 30, 1911, is found to be \$270,000 when interest is computed at 6 per cent, and \$280,000 at 7 per cent. These figures show about what the Sheboygan Gas Light Company has put into its business and about what it would be entitled to earn upon to-day were the operation unaffected by serious and unusual conditions. This investment represents a value upon which the company may properly earn when the business has been sufficiently developed to bear the burden; and present suspension of a portion of the interest and profits customary under normal conditions need not permanently deprive the utility of the earning.

§ 1382. Limitations of early deficit method and consideration of cost of reproducing the business.

Superior Commercial Club v. Superior Water, Light and Power Company ⁴ involves the valuation of a water, light and power plant for rate purposes by the Wisconsin Railroad Commission. The company claimed that the cost of establishing the business on a paying basis would aggregate \$1,384,852. The cost-of-reproduction-new of the entire physical property was estimated at \$1,564,663, and such cost-less-depreciation at \$1,360,196. The company had accumulated a depreciation reserve of \$168,794. The Commission agreed that to physical value there should be added about \$25,000 for working capital and \$100,000 for discount on bonds. The Commission determined that from all the factors in the case it appeared that the cost-of-reproduction-new of the physical property was approximately the value on which the company was entitled to earn a return. The exact amount included for going value is not stated in the case of the water plant or of the gas plant. In the case of the electric plant \$55,000

⁴ 11 W. R. C. R. 704, November 13, 1912.

is included as the cost of building up the property and its business. In the case of the electric plant the cost-of-reproduction-new was \$395,096; the cost-of-reproduction-less-depreciation \$295,575, and the fair value for rate purposes apparently about \$483,000. The Commission states that in addition to the cost-of-reproduction-less-depreciation there should be added in determining fair value for rate purposes the following amounts: Reserve for depreciation, \$95,643; cost of establishing the business, \$55,000; working capital, \$11,500, and discount on securities, \$26,000. The Commission points out limitations to the method of determining going value based on early losses or deficits (at pages 742-743):

Deficits from operation, however, can not equitably be taken into account in the appraisals of plants regardless of the conditions under which they were incurred. Deficits due to abnormal conditions, bad management, poor judgment, extravagance, lack of ordinary care and foresight, and extremely high capital charges, etc., it is clear should receive very little consideration. . . .

It appears that the investment in the physical property of the Superior Water, Light and Power Company was greater at various periods than the immediate business of the company required. Upon the collapse of the boom in Superior the Company found itself encumbered with plants considerably larger than necessary to supply the needs of all users. Going costs incurred during periods of depression became a burden upon succeeding years until the natural conditions of business growth may again exist and the company is enabled to recoup itself for early losses.

It is not clear, however, that such losses, due to lack of growth or retrogression of community development, should be charged in their entirety against the consumers, even though the sacrifices of the owners have been prudently made. Returns upon such total costs may result in rates not reasonably within the value of the product or service to the user.

The Commission estimated the cost of establishing the business by the "deficit" method and also by the comparative-plant method. Under the comparative-plant method a reproduction cost of developing the business was estimated at \$133,925. Under the deficit method the actual cost of establishing the existing business was estimated at \$161,697. The Commission concludes (at page 744):

By constructing hypothetical new plants, equal in physical cost and similarly situated to the old plants, but only reaching in their earnings the level of the returns of the old plants at the end of such terms of years as was considered reasonable under the surrounding circumstances, costs of building up the business or "going value" have been secured, varying somewhat from the results noted above. Such computations disclose a going value of \$60,800 for the water plant, \$23,300 for the gas plant, and \$49,825 for the electric plant.

The case of *City of Milwaukee v. The Milwaukee Electric Railway and Light Company*⁵ involves the valuation of a street railway for rate purposes. The Commission issued an order slightly reducing the existing rates of charge. In previous decisions where going value has been included the Wisconsin Commission has apparently based its allowance on an estimate of uncompensated losses incurred in the establishment of the business. In the present case it does not seem that any uncompensated losses were discovered, but the Commission nevertheless allowed \$450,000 to \$500,000 as going value, the estimate being based apparently on the comparative-plant method (see pages 151, 155, 159). The Commission discusses the actual-cost and comparative-plant methods as follows (at pages 151, 154, 155):

⁵ 11 W. R. C. R. 1, 14 A. T. & T. Co. Com. L. 197, August 23, 1912.

Aside from an arbitrary percentage which must have some basis in fact, the measure of going value must be made either upon the basis of cost or upon the basis of an estimate of a reproductive value. Upon the basis of cost instances frequently occur, as it developed in tables 34 and 35, where past surpluses have offset and wiped out past losses. Upon the basis of a reproduced plant a going value will be developed in every case dependent largely upon the liberality of estimate. . . .

Of the two methods elaborated, the first or going cost basis has been variously criticized, by many upon the ground that its estimates are too liberal, by others that it results in negative values and takes recognition of the utility's past financial history. Its obvious merit lies in the fact that it assumes that the relations of users and utility have at all times been placed upon an equitable basis. . . .

The comparative-plant basis is open to the objection that it is based upon a large number of varying assumptions involving practically every factor in the calculation. Its greatest point of weakness is the assumptions made with regard to earning power. It is not certain that gross earnings will show a uniform increase year by year. We are not warranted in assuming that rates will remain the same or that the company will increase its net earnings until they yield present revenues. In fact, in a determination of whether the present earning power is equitable, no portion of the rate should be based upon present earning power as a factor. There is no reason for assuming, moreover, that gross earnings will not continue to increase when present earnings have been reached and continue to offset the earlier losses. Some of these objections have been obviated by the care with which the arbitrary assumptions made in determining going value have been based upon company's conditions of operation.

§ 1383. Criticism of comparative-plant method.

City of Green Bay v. Green Bay Water Company⁶ involves the valuation of a water plant for rate pur-

⁶ 12 W. R. C. R. 236, January 6, 1913.

poses by the Wisconsin Railroad Commission. In this case the Commission discusses at considerable length the comparative-plant method of estimating going value. The Commission states that in determining going value it aims to determine the actual cost of developing the business of the plant in question, rather than the estimated reproduction cost of the business. The Commission holds that it is necessary to determine the extent to which losses have actually been incurred and to what extent, if at all, such losses have been offset by subsequent earnings. In the present case the Commission states that lack of sufficient data leaves the computation of going value largely a matter of estimate, but states that "computations of losses indicate that the allowance for going value should be not far from \$40,000." The total fair value found, including going value, was \$683,229.

In criticizing the comparative-plant method, the Commission points out the uncertainty of the various assumptions on which it is based. Such assumptions include the rate of construction of the hypothetical physical plant, the rate of recovery of the earnings and the rate of increase of operating expenses. The computation submitted by Mr. Alvord, witness for the company, estimates the difference between the net earnings of the comparative plant and the net earnings of the existing plant during the entire period from the date of the first preliminary work until the earnings of both plants become equal. The Commission holds that such an estimate includes elements which clearly should not enter into going value. The loss of capital during the construction period is not measured by the extent to which earnings fall short of the earnings of the existing plant, but rather by the amount by which they are less than the returns that have been foregone by the investor in order to enter the new field of investment. Such loss is, however, a construction cost included in the

physical valuation as an overhead charge, and therefore should not be duplicated in going value. The losses which constitute a cost of developing the business, as a loss distinct from that of the physical plant, begin when operation starts. Moreover, if the cost of reproduction is to be considered it should comprise only the cost of developing the business to the point where a reasonable return upon useful investment is secured. The Commission discusses this subject as follows (at pages 246-247, 248, 251):

A study of the conditions indicates that in some respects the assumptions upon which Mr. Alvord has based his conclusions are in need of modification, and we have pointed out below some of the changes which seem to be essential.

1. It is hardly to be expected that all of the capital necessary for the construction of the comparative plant would be diverted from its existing place of investment at the beginning of the two-year construction period, and about six months before the beginning of actual construction work. This would have a considerable effect upon the cost of reproducing the business as estimated by Mr. Alvord, although because of an erroneous method of dealing with losses during the construction period, which will be explained later, the actual effect of an incorrect assumption at this point will be reflected in the amount to be allowed for loss of interest during construction, and not in the going value.

2. It is not probable that the entire plant would be complete before any service could be offered. A somewhat different sequence of construction work than that assumed would enable the plant to offer service to a part of the hydrants and a part of the general consumers before the expiration of the two-year period.

3. A three-year period for building up the business, after the completion of the physical plant, appears to be a maximum. It is hard to conceive of a city similar in all respects to Green Bay, or of the city of Green Bay itself, without a public water

supply, in which the need for such a supply would not be so pressing as to make the rate of development of the business very rapid. Of course very much depends upon the character of the city, but one of the basic assumptions of this method is that the comparative plant should be installed in a city similar in every respect to Green Bay, except that it has no public water supply; in short, that Green Bay itself has been without such a supply and that the plant is to be installed there. Any assumption as to the rate of recovery of the business must be a matter of estimate, but it seems that three years is a very liberal estimate of the time required.

If the cost of reproducing the business is to be the test of going value, it seems that the cost to be determined should be the cost of developing a business equal to the present business, provided the earnings from that business are not excessive, rather than the present worth of the differences between the earnings of the two plants during the five-year period which it has been assumed would be necessary to bring the two plants to an equal basis, without regard to whether the earnings at the end of that time are excessive or are unreasonably low. . . .

Under a condition of regulation which limits the rate of return to a reasonable amount, this earning or market value, caused by the existence of an excessive rate of return, would not exist, and the going value, if computed upon the basis of the cost of reproducing the business, must be the cost of developing the business to the point where a reasonable return would be earned upon the useful investment, without regard to whether or not this point coincides with the point where both plants are in every respect equivalent. . . .

The loss, as computed by Mr. Alvord, is not only the amount by which returns during the construction period fall short of former earnings, but is the total amount by which they are less than the net earnings of the existing plant during this period. This does not seem to be the logical method of computing these losses. If, during the construction period, investors are secured against the actual loss which is occasioned by transferring their capital from one investment to another, this seems to be all that should be done. Until the plant is actually in operation its

reasonable and proper earnings should not be judged by what are reasonable returns in similar enterprises which are in full operation. The loss to capital invested in the comparative plant is not to be measured by the extent to which its earnings during the construction period fall short of the net revenues of the existing plant, but rather by the amount by which they are less than the returns which have been foregone in order to enter the new field of investment.

With capital withdrawn from other investments somewhat in accordance with the needs of the plant under construction, the losses due to idle capital during construction would be relatively small, and all of these losses are properly treated as a part of the cost of the physical property. The losses which constitute a cost of developing the business, as a cost distinct from that of the physical plant, begin when operation starts. If it is to be assumed, as has been done in this case, that the plant would not be put into service until the completion of all construction at the end of the two-year period, the cost of reproducing the business, which is to be an indication of the going value, does not commence until that time. All the present worth of net credits to the existing plant for the two-year construction period should be excluded from the going value.

In *City of Milwaukee v. Milwaukee Gas Light Company*,⁷ the Commission makes the following criticism of the comparative-plant method (at pages 458-459):

The respondent advances the argument that going value represents largely, if not entirely, the value of the company's established business. As a measure of the value of an established business the methods of both Mr. Alvord and Mr. Haase would be defective, inasmuch as neither of them considers the ratio of return to investment. Either of these methods will indicate a going value in all cases. The method assumes that an investor would always be willing to pay a bonus for the estab-

⁷ 12 W. R. C. R. 441, 24 A. T. & T. Co. Com. L. 708, August 14, 1913.

lished business. As a matter of fact, however, this would be true only where the developed business paid more than pure interest upon the investment. Should it be found that a fully developed business would not pay more than pure interest upon the actual value of the physical property, it is likely that the property would not be worth in the market even its physical value. It is only where a margin exists between the total operating expenses plus interest on investment and total revenue that the investor would be willing to pay more than the physical value of the plant. As a measure of value to the investor, Mr. Alvord's method would be more logical if he added interest on the investment to the operating expenses of both the comparative and existing plant and computed the going value on the excess of profit of the existing over the comparative plant. . . .

While such application of Mr. Alvord's method for purposes of sale would not show a going value except in cases where the existing plant was earning a profit above interest, a computation to show the cost of reproducing the business would show a development cost and such a development cost would actually exist even where the utility was earning less than a normal interest rate. The cost of development must not be confused with what an investor would be willing to pay in the market above actual physical value for an established business.

§ 1384. Consideration of estimate of cost of reproducing a paying business.

*City of Milwaukee v. Milwaukee Gas Light Company*⁸ involves the valuation of a gas plant for rate purposes by the Railroad Commission of Wisconsin. In previous cases where proper records exist the Commission had frequently determined the cost of developing the business from the actual records of the company. In the present case this method was not applicable, as no records were

⁸ 12 W. R. C. R. 441, 24 A. T. & T. Co. Com. L. 708, August 14, 1913.

available prior to 1904. In the present case the Commission apparently establishes a new precedent by computing going value on the estimated reproduction cost of developing the business. The Commission points out, however, that in calculating going value the cost of development must not be confused with what an investor would be willing to pay in the market above actual physical value for an established business. While in the present case the Commission estimates the probable cost of developing the business based on different rates of growth, its final determination does not indicate to what extent these estimates have actually been included in the fair value found. The Commission says (at pages 462-463, 465):

In the majority of cases it is impossible to arrive at the value of the physical property from an examination of the books. It is largely this fact which has caused such great importance to be attached to the theory of reproduction. It might seem reasonable to estimate the cost of development of a business in somewhat the same way that the cost of reproduction of the physical property is determined. Very few plants are profitable from the beginning. In general, deficits occur during the early years of operation.

In other decisions the Commission has calculated the cost of development of going value from an examination of these deficits. If we were to assume a property starting to-day, we might prepare an estimate of the rate of development of this property, the revenue, the cost of operation, including depreciation and taxes. By a method similar to that employed for calculation based upon the past history of the plant (see *Hill v. Antigo Water Co.* 1909, 3 W. R. C. R. 623, and other decisions) we could determine the total deficit up to the time the plant became profitable. In the estimates of going value presented by witnesses for respondent, certain revenues and operating expenses have been assumed. Using these as a basis a computation has been made along the lines just suggested:

TABLE VIII

COST OF DEVELOPMENT OF BUSINESS, MILWAUKEE GAS LIGHT CO.

	<i>1st year</i>	<i>2d year</i>	<i>3d year</i>	<i>4th year</i>
Cost of plant, January 1st. .	\$9,000,000	\$10,005,220	\$10,498,385	\$10,688,922
Additions.....	500,000	300,000	250,000	100,000
Interest at 7 per cent.....	630,000	700,365	734,887	748,225
Interest on additions for $\frac{1}{4}$ year.....	17,500	10,500	8,750	3,500
Operating expenses.....	660,000	989,000	1,131,000	1,265,400
Depreciation.....	160,000	170,000	180,000	190,000
Total cost.....	\$10,967,500	\$12,175,085	\$12,803,022	\$12,996,047
Revenues.....	962,280	1,676,700	2,114,100	2,414,250
Plant value, Dec. 31.....	\$10,005,220	\$10,498,385	\$10,688,922	\$10,581,797
Cost of developing business, end of year.....	\$505,220	\$698,385	\$638,922	\$431,797
Assumed sales, cu. ft.....	1,320,000,000	2,300,000,000	2,900,000,000	3,330,000,000

In the above table the value of physical property as found by the engineers has been used, together with an allowance of \$550,000 for working capital. It was assumed that the plant would be complete at the time operations were started, with the exception of meters and services. Only a sufficient number of these are assumed to have been installed to take care of the first year's operation. The remainder are assumed to be connected during the next year and appear in the line "Additions to plant." In this table the rate of growth is the same that is assumed in the computations by Mr. Alvord. The operating expenses, however, are somewhat lower, particularly after the first year. It is difficult to see why the cost of operation should continue so much above present cost of operation even after the total sales have become greater than the present sales. The cost of plant at the end of the third year includes an investment in physical property equal to the cost of reproduction plus the working capital. During the fourth year an additional \$100,000 was added to care for the extensions occasioned by the increase over present consumption. If the investment in plant and additions at the end of any year be deducted from the total cost of plant and business, the result will be the cost of development up to that time. At the end of the third year the sales are 2,900,000,000 and at the end of the fourth year 3,330,000,000. The figures at the end of the third year give, therefore, the cost of

development of slightly less, and at the end of the fourth year somewhat more than the existing business. Since interest during construction is included in the value of the physical property and all operating expenses, including taxes and depreciation together with interest on the entire investment at 7 per cent, are cared for in this computation, it seems that the result covers the actual cost of developing the business under the conditions assumed. The non-operating revenues, which at present amount to \$53,000 a year, were not added to the assumed revenues in the computation. If these should be taken at \$30,000 a year they would decrease the cost of development at the end of the third year by somewhat more than \$90,000, and at the end of the fourth year by more than \$120,000. Other computations have been made assuming a rate of growth different from that used by Mr. Alvord, but none of these give results approaching the claim of the respondent.

The cost of reproduction of the property as found by the engineers is \$9,841,986; the present value \$8,770,148. As will be seen from the following comparative balance sheets, the respondent has accumulated a reserve of \$1,870,000, which is sufficient to cover the accrued depreciation. . . .

To the value of the property as shown by the engineers we have added about \$200,000 for working capital other than stores and supplies included in the valuation. From the consideration of all the facts before us, and giving such weight as seems proper to the claims of the company for free house piping, economies resulting from unusual engineering foresight and other items, it appears to us that a reasonable value of the property of the respondent company is about \$10,700,000.

§ 1385. Cost of services and house piping.

*City of Milwaukee v. Milwaukee Gas Light Company*⁹ involves the valuation of a gas plant for rate purposes by the Railroad Commission of Wisconsin. The Company claimed an allowance for free house piping and service-pipe construction. The Commission held that these items

⁹ 12 W. R. C. R. 441, 24 A. T. & T. Co. Com. L. 708, August 14, 1913.

were properly a part of the cost of developing the business rather than a part of the construction cost. In fixing the fair value of the property the Commission states that it has given such weight as seems proper to the claims of the Company for free house piping. The Commission says (at page 453):

Respondent claims that the engineers' appraisal does not include the company's investment in free house piping and service-pipe construction. It appears to have been the practice at one time to furnish services complete to the consumers' premises and also to do a certain amount of free house piping. A portion of this, according to the testimony of Mr. Haase, was charged to construction. The free service construction so charged amounts to \$185,406 and the free house piping to \$176,748, making a total of \$362,154. These items, particularly free house piping, would appear in the present instance to be rather a portion of the cost of developing the business than of the physical property. At any rate it is immaterial in which place they are given consideration. They will therefore be discussed further in connection with the going value or cost of developing the business.

Superior Commercial Club *v.* Superior Water, Light and Power Company ¹⁰ involves the valuation of a water, light and power plant for rate purposes by the Wisconsin Railroad Commission. The Commission excluded from its estimate of fair value an item of \$23,218, carried on the company's books as the cost of gas services. The Commission found that the item represented gratuitous work performed by the company in an effort to secure consumers, and holds that such expenditure should be considered an operating expense rather than a capital charge. The Commission says (at pages 736-737):

This item represents gratuitous work performed by the utility in an effort to secure added consumers, and has resulted

¹⁰ 11 W. R. C. R. 704, November 13, 1912.

from a policy of piping houses free or at rates below the actual cost of such service. Following a precedent which has been laid down in the case *State Journal Prtg. Co. v. Madison G. & El. Co.* 1910, 4 W. R. C. R. 501, such expenses are considered as operating expenses rather than capital charges:

“To put in piping or connections between the curb and the house, wholly or partly at their own expense, is a practice that is quite common among public utilities. This practice is undoubtedly quite effective as an aid in extending their business, and this is undoubtedly the main reason for its existence as well as the main ground upon which it is justified. In order to be a success from a financial point of view, public utilities, the same as other enterprises, must have customers, and these, even for the former, are not always secured without cost. This is especially true in cases where the desire is to secure this business more promptly or with less delay than that which is quite common where the demand for the services is left to take its course and is not stimulated by artificial means. In a general way it can perhaps be said that the greater the business of such a utility is the lower are also its rates and the better the service it renders. Extensions in their business, even when secured through the expenditures of money and efforts, are therefore in line with sound business principles and in harmony with the best interests of the plant as well as of its customers. Expenditures for the development of the business, when reasonable and when well placed, would therefore seem to be legitimate and to constitute a charge that, in some form, should be borne by the customers or by those who avail themselves of the service in question. Whether these expenditures should be charged to construction and thereby become a permanent charge on the consumer, or be charged to the operating expenses and thereby be wiped out about as incurred, are questions that can not be settled independently of the surrounding conditions. When the rates and the earnings of the utility are such as to yield a reasonable return to the investors if the expenditures in question are included in the operating expense, then ‘operating expense’ also appears to be the place to which they should be charged. When, on the other hand, the rates and the earnings are not high enough to permit

these expenditures to be charged to operating expenses without resulting in less than reasonable returns on the investment, then it would seem that, until the earnings become adequate at least, they should be charged to the cost of the plant. These rules are supported by reasons that appear to meet the requirements under ordinary conditions. While they may not apply without modifications under all circumstances, they appear to be as sound under such conditions as those by which we are confronted in these particular proceedings. They are, in fact, the main reasons why it was deemed proper in this case to leave that part of the expenditures in question, which has been charged to operating expenses, in these expenses, and to transfer such items of these expenditures, which have been charged to new extensions, from the construction to the operating accounts." *State Journal Prtg. Co. v. Madison G. & El. Co.* 1910, 4 W. R. C. R. 501, 588, 589.

CHAPTER XXVI

Franchise Value in Purchase Cases

§ 1390. Railway and Canal Commission of Great Britain—Actual cost of obtaining telephone right of way.

1391. New York Appellate Division—Value determined by earnings under reasonable rates.

1392. Quebec Commission—Capitalization of franchise value on merger.

1393. Wisconsin Supreme Court—Value of indeterminate permit.

§ 1390. Railway and Canal Commission of Great Britain—Actual cost of obtaining telephone right of way.

National Telephone Co., Ltd., *v.* His Majesty's Postmaster-General¹ involved the determination by the Railway and Canal Commission of Great Britain of the value of the property of the National Telephone Company upon its transfer to the Postmaster-General at the expiration of the company's license on December 31, 1911. Under the purchase agreement between the parties dated August 8, 1905, the purchase price was to be based substantially upon the reproduction cost of the physical property less depreciation.

Consequently there was no consideration of franchise value. The court allowed, however, £100,000, or about 1 per cent on the inventory-reproduction-cost, to cover the actual cost to the company of obtaining rights of way for its wires and poles.

§ 1391. New York Appellate Division—Value determined by earnings under reasonable rates.

In *People ex rel. Westchester Street Railway Company v. Public Service Commission*² the Appellate Division

¹ 16 A. T. & T. Co. Com. L. 491, January 13, 1913.

² 158 App. Div. 251, 143 N. Y. Supp. 148, July 8, 1913.

reversed as order of the Commission in relation to the capitalization of a street railway company. The Commission based its capitalization on what it deemed to be the fair value of the property, and it determined fair value largely on its estimate of present and prospective earnings. The court holds that the Commission should have considered not necessarily the earnings under existing rates, which were scarcely remunerative, but under reasonable rates. Judge John M. Kellogg in delivering the opinion of the court says (at page 256):

f [There are other considerations which call for a reversal of the determination. The Commission should have taken into consideration, in valuing the property, its earning power at reasonable rates. The power of the Public Service Commission to fix reasonable rates involves the right to increase as well as to lower rates. The rates are to be reasonable to the public and reasonable to the corporation.]

§ 1392. Quebec Commission—Capitalization of franchise value on merger.

In *Re Application of Montreal Tramways Company* the Quebec Public Utilities Commission ³ approves an agreement for the merger of four street railway companies to form the Montreal Tramways Company. In approving of the proposed capitalization of the new company the Commission holds that franchise rights and earning power may be capitalized. The Commission says (at pages 20-22):

In addition to its physical assets, the Montreal Street Railway Company holds a franchise from the city of Montreal giving it the sole right to operate a street railway system within the limits of the city, as then constituted, for a period of thirty years

³ *Re Application of Montreal Tramways Company for ratification of merger*, Annual Report of the Quebec Public Utilities Commission, 1912, page 17, November 8, 1911, Quebec Public Utilities Commission.

from the first of August, 1892. Approximately eleven years of this franchise have yet to expire, and in addition this company directly or through its subsidiary companies holds exclusive franchises for various terms in municipalities now or formerly existing, and, in the latter case, forming part of the city of Montreal as now constituted. Some of these franchises are coexistent with that in the city of Montreal, but others are of much greater duration and their mere existence would be a serious obstacle to the successful operation of a street railway service on the part of the city of Montreal or any other company or person in succession to the present company. In this connection our attention has been drawn to section 42 of the contract between the city of Montreal and the Montreal Street Railway Company. It is cognate to this enquiry, but not directly in point, that we should find upon the meaning of this section of the contract which deals with the taking over of the property of the company by the city upon the expiry of the franchise, and which reads as follows:

“Article 42d—It is agreed between the said city and the said company that the present arrangement or contract for the establishment and operation of the said electric railway shall extend over a period of thirty years from the first of August, eighteen hundred and ninety-two. At the expiration of the said term of thirty years, and at the expiration of every term of five years thereafter, the city shall have the right, after a notice of six months to the company, to be given within the twelve months preceding the expiration of the said thirty years, and also after a like notice of six months at the end of every subsequent five years, to assume the ownership of the said railway and all its real estate, appurtenances, plant and vehicles belonging to the company, and necessary for the operation of its line on payment of their value, to be determined by arbitrators, together with an additional ten per cent thereon, said arbitrators to be appointed as follows, viz: One by the company, one by the city, and the third by a judge of the Superior Court, sitting in and for the District of Montreal. (Section 36.)”

Without formally ruling upon the question as a matter of law, it does at least appear to us that the agreement calls for an

appraisal of the company's physical assets as the property of an active, going concern, with whatever value attaches thereto.

It has been urged upon us that we should not take into account values arising from grants of the exclusive use of the public streets, etc., for tramway operation. We fail to see how such value can in equity be ignored. Rightly or wrongly, wisely or unwisely, such rights and exclusive franchises have been granted to one or other of the companies concerned, and for a supposedly valuable consideration. Subject to the maintenance of the service and rates required, and it is in no way contended any of the companies interested have failed in their contractual obligations, these franchises are undoubted property of the company concerned and their value must be taken into consideration. What that value may be we have no means of determining, but it is not an unfair test of the value of the total holdings of the Montreal Street Railway Company, whether of physical property, earning powers or franchises, that the outstanding capital stock of the company is appreciated at approximately \$23,000,000, according to current prices upon the stock exchange. As an instance of the importance and consequent value of the franchises held or controlled by the Montreal Street Railway Company, it is admitted in argument that they are such as to render the assumption and operation by the city of Montreal of that part of the company's system which it would have the right to take over at the termination of the franchise in 1922 a practical impossibility. As before remarked, we have nothing to do with the reasons and conditions which brought about the present state of affairs, and so far as we have to appreciate the value of the assets being conveyed to the Tramways Company we would not be justified in ignoring the rights as well as the property legally vested in the persons conveying them.

§ 1393. Wisconsin Supreme Court—Value of indeterminate permit.

Appleton Water Works Company *v.* Railroad Commission⁴ is an action brought under the Wisconsin Public

⁴ 154 Wis. 121, 142 N. W. 476, May 31, 1913.

Utility Act to alter or amend an order of the Railroad Commission fixing the compensation to be paid by the city of Appleton for the purchase of the plaintiff's waterworks plant. The company was operating under an indeterminate permit. The Railroad Commission held that the indeterminate permit had no value, but the circuit court had held that it necessarily had some value if nothing more than a nominal value. The Supreme Court, however, agreed with the Commission in holding that any value incident to an indeterminate permit ceased as soon as the municipality decided to exercise its right of purchase. The court says (at pages 480, 481):

Upon this question we quite agree with the Commission. The privilege or right called an "indeterminate permit," which was first brought into our jurisprudence by the public utilities law, is simply an authority granted by the state to a given public utility to do business in a certain community, subject to all proper legislative action, either as a monopoly or in competition with other utilities, as the case may be, or as the Commission may deem for the public welfare, until such time as the municipality chooses to exercise its right of purchase. When this right of purchase has been exercised by giving the statutory notice, the authority to transact business is gone by its very terms. The element of value which remains in such a thing as this after its existence has been forever terminated is difficult to perceive. It is much like a franchise for a term of years after the term of years has expired. . . . To speak of a non-existent right having value seems a solecism. An indeterminate permit doubtless has value so long as it is in force, depending on the extent of the business, the prospects of growth in the municipality, and the likelihood of its termination in the future by the exercise of the city's option, and other considerations which will occur to any mind. But when the guillotine has fallen on the right, and it becomes but a memory, can it be logically said to have even a nominal value? We have been unable to answer this question in the affirmative.

Judge Marshall submitted a separate opinion in which he states that he fears that the company has not been fairly treated in regard to franchise and going value.

CHAPTER XXVII

Franchise Value in Rate Cases

§ 1400. Federal Court in Alabama railroad rate cases—Tax assessment of franchises included in fair value.

1401. Appraisal of Commonwealth Edison Company, Chicago.

1402. Georgia Commission.

1403. Nebraska Commission.

1404. Maryland Commission—Tax assessment of easements in streets tentatively included.

1405. Massachusetts Gas and Electric Light Commission.

~~1406.~~ New Jersey Commission and Supreme Court.

1407. New York Commission, Second District.

1408. St. Louis Commission—Telephone right of way included at actual cost.

1409. Wisconsin Commission—Annual payments and free service as part of franchise cost.

§ 1400. Federal Court in Alabama railroad rate cases—Tax assessment of franchises included in fair value.

Special masters William A. Gunter and William S. Thorington, in their reports in the Alabama Railroad Rate Cases,¹ hold that the value of the franchise should be included in the valuation of a railroad for rate purposes. In Alabama a state law passed in 1907 provides for the taxation of the “franchises or intangible property and

¹ South and North Alabama Railroad Company *v.* Railroad Commission of Alabama, United States Circuit Court, Middle District of Alabama, Report of William A. Gunter, Special Master in Chancery, 1911. Louisville and Nashville Railroad Company *v.* Railroad Commission of Alabama, same Court and Special Master as above, 1911. Central of Georgia Railway Company *v.* Railroad Commission of Alabama, United States District Court, Middle District of Alabama, Northern Division, Report of William S. Thorington, Special Master, January 8, 1912. Western of Alabama Railway Company *v.* Railroad Commission of Alabama, same Court and Special Master as above, April 3, 1912.

assets'' of transportation corporations. Under this law the state tax commission assessed railroad franchises at substantial amounts. The special masters accordingly took the amounts of such assessments, increased by the percentage necessary to bring them up to full value, and added them to the value of the physical property in order to determine fair value for rate purposes. Special Master William A. Gunter discusses this subject at considerable length in his report in the South and North Alabama Railroad Company Case (pages 42-46):

It is insisted by defendants that no value should be put upon the franchise of the complainant, for two reasons.

First. That if the franchise has any value, it does not enure to the benefit of the stockholders, who in thirty-seven years received no dividends.

Second. That the value of the franchise arises from the capacity to earn profits, and if its value is estimated as a basis for earnings it will call for higher rates, and that every increase of rates will give greater value and demand more rates.

Answering these arguments, it does not seem material that the earnings are absorbed by the widows and orphans, who live on interest on the bonds of the company and that thus the stockholders have received no dividends on \$2,282,003.73 invested in the road forty years ago.

It is evident from the proof that the complainant has a high capacity for earning money, and its net income may be regarded as a dividend, in a large sense of the word, to its creditors. (State Railroad Tax Cases, 92 U. S., pp. 606-7.)

The other point is that if the franchise is fed it will devour the state from the cultivated appetite for rates. But there are fixed limits to the calls for the increase of rates. They must be reasonable in themselves, irrespective of values put upon the property.

Moreover the same objection will apply to almost all the property of the railroad. The value of its structure is based on the capacity to earn profits, and in large part would be worthless

without this feature, and would become more valuable as profits increased. It matters not that the franchise might have been donated by the state like the right of way over territory adjoining which great cities have been built. Usually the recipients of such bounty pay high prices in the end. It is the case here, where stockholders have had to live without dividends for thirty-seven years. And, if after long waiting, the country is developed by the road and in turn it gives rise to commerce, the franchise, which lives by trade, assumes the dignity of property and is universally taxed precisely as tangible assets. (Acts of Alabama, 1907, p. 284.)

If the franchise is exercised in the business of a common carrier and its corporate property highly rated and taxed by the state, through an official commission having such matters especially in charge, it seems that its value should be represented in the rates allowed by the state. It is admitted that in the Willcox case, 212 U. S. 51, the Supreme Court allowed value to the franchise in a rate case. But it is insisted that that case is different from this, in that there the legislature had given a value to the franchise in authorizing a consolidation of companies with it as an item. But the legislature is just as plainly estopped here as it was there. For here there is a formal law requiring the franchise to be rated and taxed precisely as tangible property. (Acts of Alabama, 1907, p. 284.)

The only authority referred to against the propriety of valuing the franchise is a quotation from Beale and Wyman on Railroad Rate Regulation, section 362. But we think they hardly state the law as established by the decisions. The Willcox case, 212 U. S. 19-54, can not be distinguished so as to exclude the principle here involved. The ruling there was merely against the assumption that the franchise value in that case had increased in the same proportion that real estate had advanced. The right to a proper valuation was sustained and allowed. The court did not decide that a capitalization of the franchise was necessary to give it a valuation, but only referred to that as evidence of the value. On page 44 of the opinion it is said: "It can not be disputed that franchises of this nature are property and can not be taken or used by others without compensation.

Monongahela v. U. S., 148 U. S. 321; *People v. O'Brien*, 111 N. Y. 1, and cases cited."

If franchises are under the protection of the constitution as property, rates without giving a valuation would be a taking of property without due process of law. In the case of 148 U. S. 312, above cited, the court says: "Such a franchise was as much a vested right of property as the ownership of the tangible property," and was under the protection of the constitution. To the same effect is the case of *People v. O'Brien*, 111 N. Y. supra, also cited. Moreover Beale and Wyman do not seem to be supported by the authorities cited by them. They refer under section 362 to the case of *Brunswick and Topsham Water District v. Marine Water Company*, 99 Me. 371, 59 Atl. 537, which says: "In applying the rule that the basis of all calculations as to the reasonableness of rates to be charged by a public service corporation is the fair value of the property used by it for the service of the public, franchise values are not to be disregarded; that the element of going-concern value is not to be considered, only as involved in structure value, and that property value in this connection is not merely structure value."

Further on in their work the authors cite the authorities and in their own words fully sustain the view that the intangible value of a long-established and going concern is or may be much greater than constructive value.

State Railroad Tax Cases, 92 U. S. 606-7.

Water Works Co. v. Kansas City, 62 Fed. 853; 27 L. R. A. 827.

Metropolitan T. Co. v. H. & Texas C. R. R., 90 Fed. 683, 687, 688, 689.

Adams Express Co. v. Kentucky, 166 U. S. 171.

Adams Express Co. v. Ohio S. Auditor, 166 U. S. 185, 218, 221.

Fargo v. Hart, 193 U. S. 490.

Beale and Wyman on Railroad Rate Regulation, sections 368, 369, 370.

President Taft in his letter of acceptance of the nomination for the Presidency appears to have announced the settled rule of law on the subject, when he said:

“It is clear that the physical value of the railroad and its plant is an element to be given weight in determining its full value; but the value of the railroad as a going concern, including its good will, due to the efficiency of service and many other circumstances, may be much greater than the value of its tangible property, and it is the former that measures the investment on which a fair profit must be allowed.”

It is insisted that no testimony was introduced to prove the value of the franchise. But this is a mistake. Its taxation at 60 per cent of its value is shown and that this was raised to 100 per cent, and the witness Colston testified that from his personal knowledge of all the circumstances affecting the franchise this valuation shown by the tables prepared by him was not excessive. (Record 1389, 1400, 1401, 1598, 1599, 2622, 2627, 2628, 2629, and 2644-2648.)

The objection of the defendant is therefore overruled, and I find and report the value of complainant's franchise for the several years named as stated below:

June 30, 1906.....	\$2,316,066.66
June 30, 1907.....	2,316,066.66
June 30, 1908.....	2,216,066.66
June 30, 1909.....	2,811,916.66
June 30, 1910.....	3,978,583.33

District Judge Jones approved the reports of the special masters in regard to inclusion of franchise value.² In the Louisville and Nashville case he said (at page 822):

As to the propriety of valuing the franchise on a rate question, the authorities clearly settle the point in the affirmative. I refer to the master's report in the South and North Case, pp. 42-46, where he considers the question in an able manner, and I concur thoroughly in his conclusion.

§ 1401. Appraisal of Commonwealth Edison Company, Chicago.

In 1913 an investigation and report on the rates charged

² Louisville and Nashville Railroad Company v. Railroad Commission of

by the Commonwealth Edison Company was made to the City Council of Chicago by Ray Palmer, city electrician, and John E. Traeger, city comptroller. The report fixes the fair value of the property of the company and recommends a reduction in existing rates of charge. The report holds that franchise value should not be included in fair value for rate purposes. The following is from the report (at page 38):³.

The consideration of franchise value in rate cases resolves itself into a question of grantor versus grantee. The municipality as grantor confers upon the corporation the rights and privileges of operating and maintaining plants and in connection therewith use of streets and public ways as necessary in furnishing service to the public. The grantee agrees to conform to the prescribed municipal rules and regulations and under the rights reserved by the state, and in some cases by contract with the municipality, subjects itself to regulation of service and rates. In a franchise so granted, where the public confers the right to operate and receives in return only proper service at reasonable rates, the placing of a value upon such operating rights is in effect penalizing the consumers for the privileges conferred.

The allowance of a reasonable return upon the capital value, as determined by appraisal of the property resulting from proper expenditure of capital funds, can not therefore be based even in part upon a value which cost nothing but obedience of law and respect of rights, and which value arises solely from the opportunity of serving the community. In the case of the Commonwealth Edison Company there is no evidence in the company's or city's records that a payment was made for fran-

Alabama, 196 Fed. 800, April 5, 1912, and *Western of Alabama Railway v. Railroad Commission of Alabama*, 197 Fed. 954, May 27, 1912.

³ Report to the Committee on Gas, Oil and Electric Light of the Chicago City Council on the investigation of the Commonwealth Edison Company, by Ray Palmer, City Electrician, and John E. Traeger, City Comptroller, May 14, 1913.

chise privileges; accordingly no allowance for franchise value is made in this report.

§ 1402. Georgia Commission.

Application of the Macon Railway and Light Company, decided February 24, 1914,⁴ involves a valuation for rate purposes by the Georgia Railroad Commission. The Commission holds that franchise value should not be included in fair value for rate purposes. The Commission says (at pages 1084-1085):

Following its own precedent the Commission will not, for rate-making purposes, include the value of franchises donated by the public in the value of the property upon which fair returns should be had. The franchise under discussion is the right to occupy and use the streets of Macon as rights of way, etc. These streets belong to the public. The right to use them, as granted, is a valuable right, and hence the franchise is taxed as a property right. But this valuable property right in the public streets was donated by the public.

§ 1403. Nebraska Commission.

Re Application of Lincoln Telephone and Telegraph Company⁵ for authority to increase rates involves the valuation of a telephone plant for rate purposes by the Nebraska State Railway Commission. No claim was made for franchise or good-will value in this case. The Commission, however, takes occasion to state that such values can not properly be considered in a rate case. The Commission says (at page 144):

This Commission is of the opinion that good-will or franchise values have no place in the valuation of a public service corporation subject to regulation, and would entertain no such claim if it were made, except only as to legitimate costs thereof, when

⁴ 29 A. T. & T. Co. Com. L. 1072, Georgia Railroad Commission.

⁵ 19 A. T. & T. Co. Com. L. 134, June 26, 1913, Nebraska State Railway Commission.

such can be shown. If a public utility should demand a return on valuation of that nature for which there has been no actual investment, before this Commission, it would appear too much like asking the public to pay in perpetuity for the privilege of making free gifts to the corporation. The subject needs no other comment on our part than to say that it has no consideration in this hearing, or in the valuation used for basing rates or rate of return to the company.

§ 1404. Maryland Commission—Tax assessment of easements in streets tentatively included.

*Bachrach v. Consolidated Gas, Electric Light and Power Company of Baltimore*⁶ is a rate case. Although the Commission made a valuation of the property of the company, such valuation did not have a very important bearing on the conclusions reached. The Maryland law provides that so far as possible the Commission shall not disturb the value of the company's bonds. In the present case the rate fixed was based largely upon a consideration of the amount required to safeguard the value of the bonds.

The Commission included in fair value the value of easements owned by the company in streets. These easements were assessed for purposes of taxation at \$5,000,000 and they were included by the Commission in fair value at the same amount. The decision of the Commission was not entirely unanimous on this subject, but the Commission states that it is not necessary to go into an extended discussion of the matter as the allowance has no special importance in the conclusions reached. The Commission says (at pages 174-175):

A subject of contention in the trial of the case was the valuation of the easements owned by the company in the streets of Baltimore and which, for the purposes of taxation, are assessed at \$5,000,000. The counsel for complainants contended that

⁶ 14 A. T. & T. Co. Com. L. 154, January 13, 1913, Maryland Public Service Commission.

the easement was in the nature of a franchise—in fact, grows out of the franchise—and as the law forbids the capitalization of franchises, it is not proper to include this value in a rate case as an item upon which the company should be permitted to earn a return, especially as no money was paid for it and it does not represent actual investment.

Counsel for the company contended, on the contrary, that the Court of Appeals having decided that the easement is real property, and a value of \$5,000,000 having been placed upon it for the purposes of taxation, it was properly included in the assets of the company as property upon which it is entitled to earn a return.

The matter was referred to the General Counsel of the Commission, who, in a careful opinion filed in the case, sustains the contention of the company.

In the judgment of the Commission the opinion of the General Counsel should prevail, but one of the members is not free from doubt on the subject. It is not deemed necessary to go into an extended discussion of it. Nor is it considered of special importance in determining prices, as it will be seen later that a definite amount of revenue is necessary.

§ 1405. Massachusetts Gas and Electric Light Commission.

The Massachusetts Board of Gas and Electric Light Commissioners in its decision *In Re Haverhill Petitions*, December 31, 1912, rejects a claim for franchise value. This case involves the rates of charge of the Haverhill Gas Light Company. The Board says:

The Board can not, in the general interest of consumers, discourage the reasonably liberal provision for the future which this company seems to have made, neither can it concede the company's claim that franchise or going-concern value should form a part of that property on which a reasonable return should be based.

§ 1406. New Jersey Commission and Supreme Court.

Re Rates of the Public Service Gas Company involves the valuation of a gas plant for rate purposes by

the New Jersey Board of Public Utility Commissioners.⁷ In this case the Board included a lump allowance of \$1,025,000 to cover all intangible property. In so far as it includes franchise value, however, it seems that the intent of the Board was to include only such amount as will represent the original or present cost of obtaining franchises. The allowance was intended chiefly to cover going value and certain development expenses. The Board says (at pages 481-482):

It is quite obvious that our finding as to the total amount of intangible property (\$1,025,000) is tantamount to including the franchises of the company at a moderate rating, at a value comparable with the cost of obtaining these or similar franchises. It amounts, therefore, to a practical denial of the company's contentions as to the value of its franchises. The figure claimed for franchises by Mr. Bergen, counsel for the company, on page 15 of his brief, of \$1,392,235 considerably exceeds our appraisal of the company's entire intangible property. The contention made by the company that the par values of securities originating in the merger and consolidation of February 6, 1899, of various gas and electric companies in this district set or determine an amount below which our aggregate valuation may not fall is expressly denied.

The method we adopt for estimating the fair value of intangible property exempts us from a separate appraisal of the company's franchises. Their inclusion in our total on an applied valuation of what it would cost to obtain such franchises makes it hardly necessary to canvass the considerations urged by Mr. Merrey, of counsel for Paterson, against their validity. Had we been obliged to compute separately the fair value of the franchises, we should have been compelled to estimate the presumable cost of obtaining similar franchises. Had there been evidence that these franchises, or any of them, were exclusive of similar grants to would-be competitors; or had there

⁷ 1 N. J. B. P. U. C. 433, 15 A. T. & T. Co. Com. L. 354, December 26, 1912.

been any evidence that these franchises, or any of them, conveyed an exemption from taxation, or a right to collect specified rates or tolls from consumers, or otherwise created a property right capitalizable against the public, due allowance would have been made therefor. There is no evidence of any of these things. There is no evidence of what these franchises cost the company, or the various constituent companies merged into the Paterson and Passaic Gas and Electric Company. There is no specific evidence that any of these franchises has a specific value stated in terms of dollars and cents. In the present case there is no persuasive evidence that the franchises in question do more than convey permits for the location of apparatus such as mains upon public property. It is well known that it is the public policy of the state of New Jersey at present not to allow the capitalization of franchises for an amount in excess of the actual cost involved in obtaining said franchises. That this is a wise and equitable policy we think is incontestable. One of the characteristic features of a public utility such as a gas company is that it does not possess, and ordinarily can not afford to purchase, the land requisite for the location of its distributing apparatus. When by its secondary franchise such permits to locate are granted to a company without other expense than the necessary business and legal costs of securing municipal consents, it seems unthinkable, as a matter of equity and public policy, that the easements gratuitously granted should be made the basis for an additional charge to be imposed upon the grantor. Even when taxes are imposed upon public utilities under the guise of franchise taxes, the taxes so imposed are commonly treated as an operating cost by the utilities, and are recouped out of the rates paid by consumers in much the same fashion as the company's other operating costs. How the company's payment in the first instance of a tax which is promptly shifted to the consuming public gives any color to the claim that the company is entitled to capitalize a franchise against the grantor and to obtain a distinct return thereon we are unable to see.

In Public Service Gas Co. v. Board of Public Utility

Commissioners⁸ the Supreme Court of New Jersey upheld the above order of the Board of Utility Commissioners refusing to include an allowance for franchise other than the actual cost of the franchise. Judge Swayze discusses this subject as follows (at pages 658–660):

The question of the propriety of allowing for the value of special franchises is one not yet settled upon authority. That they are property is well settled. . . . Such franchises, however, are property of a peculiar kind; the right of property in them is not absolute, but is qualified by the right of the state to fix reasonable rates. The difference between an absolute right of property and such a qualified right is well illustrated by a series of cases in the United States Supreme Court. *Los Angeles v. Los Angeles City Water Co.*, 177 U. S. 558, 20 Sup. Ct. 736, 44 L. Ed. 886; *Detroit v. Detroit Citizens' Street Railway Co.*, 184 U. S. 368, 22 Sup. Ct. 410, 46 L. Ed. 592; *Cleveland v. Cleveland City Ry. Co.*, 194 U. S. 517, 24 Sup. Ct. 756, 48 L. Ed. 1102; *Cleveland v. Cleveland Electric Ry.*, 201 U. S. 529, 26 Sup. Ct. 513, 50 L. Ed. 854; *Vicksburg v. Vicksburg Water Works Co.*, 206 U. S. 496, 27 Sup. Ct. 762, 51 L. Ed. 1155. Where, as in those cases, the rate is fixed, the value of the franchise may be calculated upon the assumption of that rate. But where, as in this case, the rate is not fixed and may be changed, there is no stable basis upon which to calculate the value of the franchise, since that value is dependent upon the rate. The rate must indeed be reasonable, but to assume a value for the franchise in order to determine the reasonableness of the rate is to reason in a circle; the value and the rate are mutually dependent, and one must be fixed independently if it is to form a basis for the calculation of the other. *Brunswick & T. Water District v. Maine Water Company*, 99 Me. 371, 59 Atl. 537. That a special franchise in the absence of an exclusive right is property only in a qualified sense is the result of the right of the state not only to regulate rates, but also to authorize a municipality to supply itself, and thereby destroy the

⁸ 85 N. J. —, 87 Atl. 651, July 7, 1913.

value of the special franchise. *Hamilton Gas Light Co. v. Hamilton City*, 146 U. S. 258, 13 Sup. Ct. 90, 36 L. Ed. 963. This argument is inapplicable where the public service company has an exclusive right. *New Orleans Water Works Co. v. Rivers*, 115 U. S. 674, 6 Sup. Ct. 273, 29 L. Ed. 525; *New Orleans Gas Co. v. Louisiana Light Co.*, 115 U. S. 650, 6 Sup. Ct. 252, 29 L. Ed. 516; *Walla Walla v. Walla Walla Water Co.*, 172 U. S. 1, 19 Sup. Ct. 77, 43 L. Ed. 341.

. . . Assuming, however, that the bargain was always a good one for the companies, and that the cost to the companies was always so trifling that the franchises may fairly be regarded in popular language as a gift, it does not follow that the franchise is not a valuable property. The value of property does not depend on the mode by which title is acquired. The whole state of New Jersey was originally given by the King to the Duke of York; it immediately became valuable to him, and he was able to sell it to Berkeley and Carteret, who in their turn sold it no doubt at a profit. There is, however, a sense in which the fact that franchises are the subject of gift may be important. The value of a gift to an existing company may be destroyed by a similar gift to a new corporation or other individuals; and it is obvious that, in order to determine the wisdom of investing in the enterprise, the newcomers would be under no necessity of seeking a return upon a franchise for which they were to pay nothing. Since it is in the power of the state to bring about a supply without compelling the public to pay on the franchise valuation, beyond the actual cost of procuring it, it would be likely to do so, and the effect would be to destroy the value of the special franchise of the existing company. These considerations lead us to the conclusion that logically no allowance should be made for the value of the special franchise in a case where it is not legally exclusive, and where the state still retains the right to fix rates. That is the present case. . . .

At the time of the consolidation of the companies in the Passaic district in 1899 it was well understood that the rates of public service companies were subject to public regulation. If there were any doubt of this at the common law, the doubt was set at rest by the decision of the United States Supreme Court

in *Munn v. Illinois* and the other "Granger Cases" in 1877, 94 U. S. 113, 24 L. Ed. 77.

Every stockholder, past or present, in the Paterson and Passaic Gas and Electric Company must be assumed to have taken his stock with knowledge of the law, and the same knowledge must be imputed to every bondholder. He may have thought that the state would not exercise its power to his disadvantage, and have paid more for his stock on that account; but the state had done nothing to mislead him. If he depended on the state's inaction, he took the chance of its exercising its power, just as he took the chance of the company's being managed successfully. He acquired his stock not upon the basis of any assurance by the state that the then existing rates would continue, but upon his own estimate of the chances and the future value. That there was no assurance of the continuance of then existing rates is demonstrated by the fact that the company itself has pursued a policy of constant reduction. Twenty years ago the charge in this district was \$2 per 1000 cubic feet. It can not be that a stock holder could have enjoined the directors from making these reductions because the reductions might affect unfavorably the value of his stock. Yet the legal right of the directors to determine the rate is of no higher character than the legal right of the state. That right would be of no avail if the public service corporation could capitalize its special franchises and insist on the right to a rate which would enable it to pay dividends on that capitalization.

Judge Swayze refers to the decision of the United States Supreme Court in *Willcox v. Consolidated Gas Co.*, 212 U. S. 19, and holds that that decision in apparently including a certain amount of franchise value was not binding in the present case. In the *Willcox* case a determination as to franchise value was unnecessary to the decision since the result was to sustain the rate fixed by the Commission. That is to say, the court held that the rate fixed was sufficient to yield an adequate return even though allowance was made for the valuation put upon

the franchise in 1884. In order to make the case an authority the rate should have been so low that its adequacy would depend upon whether the valuation of the special franchise was included or excluded.

§ 1407. New York Commission, Second District.

*Fuhrman v. Buffalo General Electric Company*⁹ involves the valuation of an electric plant for rate purposes. Chairman Stevens in delivering the opinion of the Commission states that it is true that the franchise is of value to the company as without the franchise the plant would have only a scrap value. The city, however, gave the franchise in order that it might secure the public service under reasonable rates of charge. A reasonable rate must be based on something that the company has put into the enterprise. The franchise is the contribution of the public not of the company. Chairman Stevens says (at page 763-764):

The city of Buffalo as a municipality has given the company a right to place its poles and string its wires in the streets for the purpose of lighting the streets. The argument that the franchise thus given has a value for rate-making purposes comes just to this: that the city must annually pay to the company, in addition to all just amounts for operating expenses, taxes, amortization, and a proper return upon the investment made by the stockholders, a further sum because of the right which the city itself had given to occupy its streets. The company desires to make money by lighting the streets. It can not so do without having its plant in the streets. The city consents that the plant may be put in the streets, and the company then desires the city to pay it a large sum because it has consented to such use of the streets. If the franchise was of the value of \$2,000,000, as seems to have been assumed in the consolidation, and the proper return upon

⁹ 3 P. S. C. 2d. D. (N. Y.), 739, 18 A. T. & T. Co. Com. L. 1094, April 2, 1913.

this is 6 per cent per annum, the public in the city of Buffalo would be required to pay \$120,000 each year to the respondent for no reason whatsoever except that it had given the company the right to occupy the public streets with its plant. We are not prepared to say that either the municipality of Buffalo or the customers of the company residing in Buffalo should pay anything to the respondent on this account.

§ 1408. St. Louis Commission—Telephone right of way included at actual cost.

In its report on the Southwestern Telegraph and Telephone Company¹⁰ the St. Louis Public Service Commission considers the valuation of a telephone plant for rate purposes. In regard to the valuation of a telephone right of way the Commission says (at page 17):

Right of way in this case means to a great extent the investment caused by the necessary payments to land owners for the privilege of erecting poles upon private property or in some cases payment for location of poles in the public street in such position as to cause complaint from the adjacent property owners. There is also included in this item of investment such costs as the legal fees to city and county for pole or wire permits and the executive and clerical expense necessary to locating and obtaining the right to set poles and string wire.

In estimating the investment in this item the records of the company were taken into consideration and these together with the opinion of the Commission as to the reasonable cost of such investment determined the amount allowed.

§ 1409. Wisconsin Commission—Annual payments and free service as part of franchise cost.

The Wisconsin Railroad Commission in a general discussion of franchise values in *Hill v. Antigo Water Co.*¹¹ seems to hold that stipulated payments to a municipality,

¹⁰ Report of St. Louis Public Service Commission to the Municipal Assembly of St. Louis on the Southwestern Telegraph and Telephone Company, October 14, 1913.

¹¹ 3 W. R. C. 623, August 3, 1909.

license fees and free service form a legitimate part of the investment in the plant and its business and may be included in the value of the plant for rate-making purposes. The Commission says (at page 727):

Franchises are not always obtained without cost. Many of them include provisions which entail outlays that may be charged either to the capital account or the operating expenses. The former may consist of considerations in the form of stipulated payments to the municipality, license fees, a certain amount of free service upon which values can be placed, and other items of this character. The latter may include the upkeep of streets and other property, extra services of various kinds, and other items of a similar nature. The former, again, would seem to be as much a part of the investment in the plant and in its business as the cost of the physical plant, and there would appear to be the best of reasons why such costs should be included in the value of the plant for rate-making purposes. The latter would also appear to be legitimate charges to the operating expenses. In fact, we can see no valid reason to the contrary. Both would seem to be just charges against the consumers. Both tend to increase the expenses, and consequently the rates, and these increases would seem to be fair and equitable to all concerned.

License fees, annual payments and free service constitute an annual rental charge very similar in effect to taxes. They constitute a part of the operating expenses and there would seem to be no more justification for their capitalization than for the capitalization of any other current necessary expenditures. The above quotation, however, is mere dicta and no cases have been found in which annual payments or the cost of free service have been included by the Commission in fair value for rate purposes.

In *City of Rhineland v. Rhineland Lighting Company*¹² the Commission discusses the claim of the com-

¹² 9 W. R. C. 406, 428, July 11, 1912.

pany to a franchise value on account of free service to the city. In this case the Commission does not discuss the merits of such an allowance but concludes that such allowance, if any, would in the present case be almost negligible.

CHAPTER XXVIII

Appraisal of Franchise Value

§ 1420. Appraisal of Kansas City street railway.

1421. Appraisal of New Jersey railroads for tax purposes.

§ 1420. Appraisal of Kansas City street railway.

At the request of the receivers of the Metropolitan Street Railway Company of Kansas City the court appointed Bion J. Arnold as a special commissioner to investigate and report to the court what in his opinion was a "fair and reasonable sum to represent the capital value" of the street railway property "for adoption in a contract for new franchises." Mr. Arnold estimated the value of the unexpired franchise of the company. The amount thus determined was added to cost-of-reproduction-less-depreciation to cover all elements of intangible value. The method used in calculating the value of the unexpired franchise is described by Mr. Arnold as follows (at pages 13-14):¹

Ascertain the net profits to be derived by the company each year till June 1, 1925, deducting from the gross earnings from operation, first, operating expenses, including proper allowances for maintenance, depreciation and taxes; second, fixed or interest charges upon the depreciated tangible value of the property as hereinbefore found, which is used to produce the gross receipts. After the net returns are thus estimated, ascertain the present value thereof by discounting same at the rate of 5 per cent per annum. From the present value thus ascertained deduct the

¹ Report of Bion J. Arnold, Special Commissioner to the District Court of the United States, Western Division of Missouri. William C. Hook, Circuit Judge. Dated February 3, 1913.

present value of future interest charges which must be met, to support the constantly increasing capital necessary to produce the future earnings. When this deduction is made, the balance left is the present value of the net profit if the company operates the Metropolitan system until June 1, 1925. Tested in this way the result on the basis of a protected investment is:

Present value of future net receipts.....	\$25,832,411.32
Present value of future interest charge.....	<u>12,340,870.05</u>
Net intangible value to company.....	\$13,491,541.27

On the basis of an unprotected investment the above intangible value would be as follows:

Present value of future net receipts.....	\$25,832,411.32
Present value of future interest charge.....	<u>12,881,126.50</u>
Net intangible value to company.....	\$12,951,284.32

This net or earning value, then, is the sum representing intangible or other elements of value to be added to the cost-of-reproduction-less-depreciation.

In this case the cost-of-reproduction-less-depreciation was about \$22,000,000.

§ 1421. Appraisal of New Jersey railroads for tax purposes.

In 1911 under authorization of a special act of the legislature a revaluation of the railroads of New Jersey was made for tax purposes. The valuation was intended to include the value of all tangible property, plus "the value of the remaining property, including the franchise." The method adopted in determining the value of all intangible property for the purposes of this appraisal is outlined in the report of Charles Hansel, expert in charge, as follows (at pages 48-49, 52-53, 56, 57):²

In this state, we face a condition, not a theory; and, after having given due consideration to all the questions attendant upon

² Report on Revaluation of Railroads and Canals, New Jersey, 1911, by Charles Hansel, Expert in Charge, 465 pages.

this work, as we understand and estimate them, we have concluded to adopt the following plan for determining the Fourth Division, Section 3:

FOURTH DIVISION, SECTION 3: METHOD OF FIXING VALUE

A. The investment value of the physical property before depreciation.

This is determined by the present value of railroad lands, used for railroad purposes, plus the present cost of producing the roadbed, track and appurtenances of the permanent way; plus the value of the tangible personal property, plus the abandoned property, if any.

B. Appraised value of real estate and personal property as in A, less depreciation by reason of decrepitude and obsolescence.

C. This item should include all gross earnings and income of every kind whatsoever, excepting earnings from real estate not used for railroad purposes, such as is described under the tax law of New Jersey as third-class property, and income from securities.

D. Operating expenses, exclusive of taxes, including every item of expenses incurred in operating, hire of equipment, joint facilities, miscellaneous rents paid, etc., except rent of property not used for railroad purposes.

E. Available corporate income. This item is determined by deducting the item of operating expenses (D) from the gross earnings (C).

F. Annuity or fixed charges, five and one-half per cent ($5\frac{1}{2}$) of A.

G. Taxes on appraised value as represented in item B. This rate is based on tax rate used by State Board of Assessors.

H. Income from property not covered by appraisal. This item should include all rentals from third-class property; that is, property not used for railroad purposes.

I. This item includes all payments for interest, exchange, or discount on interest-bearing current liabilities; interest on receivers' certificates, notes, open accounts, and other analogous items.

J. This item includes interest on funded debt incurred by loss in operation. . . .

THE FOURTH DIVISION, SECTION 3: EXAMPLE FOR COMPUTATION

The value of the remaining property, including the franchise

A. Gross investment.....	\$70,000,000
B. Present value real estate and tangible personal property.....	60,000,000
C. Gross earnings.....	\$28,000,000
D. Operating expenses exclusive of taxes....	20,000,000
E. Available corporate income.....	\$8,000,000

Deductions from E

F. Annuity on gross investment 5½ % on \$70,000,000.....	\$3,850,000
G. Taxes on present value of phys- ical property (B), at 1.896....	1,137,600
H. Income from properties not cov- ered by appraisal.....	500,000
I. Interest, exchange, discount, &c.	600,000
J. Interest on funded debt in- curred in operation.....	000,000
	<u>6,087,600</u>
Surplus available for dividends.....	\$1,912,400
Surplus capitalized at 7.896.....	\$24,219,858
Present value real estate and tangible per- sonal property.....	60,000,000
Total of all values.....	<u>\$84,219,858</u>

In the foregoing example, illustrating the method of determining the value of Subdivision IV, we have used the rate of 5.5 per cent to determine the annuity or interest charges. The rate of 5.5 per cent on estimated cost of producing the permanent way, structures and personal property, plus the normal value of the land at the date of valuation, will, in our opinion,

produce a greater sum than is paid as interest charge on the property.

The value of the land as appraised includes the increment value which, in many cases, is a large item, upon the value of which no interest is paid.

The discounts and commissions, which were a charge against original construction, have been largely, if not entirely, wiped out by refunding the bonds and by the taking up of bonds through the sinking fund provided from net earnings.

The rate of 7.896 per cent, used in the foregoing example for capitalizing net surplus to determine the value of Subdivision IV, is six per cent plus the tax rate of 1.896 per cent.

The capitalization of the net surplus at 7.896 per cent results in a value to the remaining property, including the franchise, such that it yields a net income of six per cent after payment of taxes.

It is manifest that, as we develop a value for the non-physical elements included in the "value of the remaining property, including the franchise," we are adding to the taxable value of the remaining property. The tax rate to be levied on the value so found should, we think, be used in some manner as a factor in the computation. We believe that this can be properly accomplished by adding the tax rate to be levied to the basic income rate. By this method, any increase or decrease in tax rate will be reflected in the "value of the remaining property, including the franchise." . . .

The present tax rate of 1.896 added to the basis rate of 6 per cent gives the state 24 per cent of the net surplus from rail operations after all operating expenses, maintenance, interest and fixed charges have been paid.

The state and federal courts hold that the state can not reduce railway rates for carriage below a point necessary to assure a fair return upon the investment in the property; and, in some cases, the "fair return" has allowed interest and taxes on the unearned increment which, as in the case of the tidewater terminals, amounts to a considerable sum. . . .

The railroads and the state are thus jointly interested in the question of rates of carriage. On the one hand, the state may

favor the direct payer of the rail rates by reducing intrastate rates at the expense of the state and school fund; on the other hand, the state may favor rates of carriage which will enable the railroads to earn a net surplus, of which, for each \$1000 so earned the railroads keep \$760, the state keeps \$63, and the school fund receives \$177. . . .

It seems just to consider a larger rate of annuity in the case of the unclassified roads that are unimportant and whose earnings, be they ever so satisfactory, would not be of sufficient importance to enable them to borrow money or to finance additions and betterments without a considerable discount commission and a rate of interest somewhat higher than the better roads would pay; and, in some cases, it might not be unreasonable to fix the annuity rate at 8 per cent.

For the purpose of this report, however, we have used $5\frac{1}{2}$ per cent throughout.

CHAPTER XXX

Return on Investment

- § 1430. Sliding-scale method recommended—Maryland Commission.
1431. Surplus should be created to equalize dividends.
1432. Relation of rates to service—Maryland Commission.

DECISIONS RELATIVE TO RATE OF RETURN

1433. United States Supreme Court.
1434. Federal Court in Alabama railroad rate cases.
1435. Arizona Commission.
1436. California Commission.
1437. Canada Commission.
1438. Chicago telephone appraisal.
1439. Commonwealth Edison Report, Chicago.
1440. Maryland Commission.
1441. Nebraska Commission.
1442. Nevada Commission.
1443. New Jersey Commission.
1444. New York Commission, Second District.
1445. Wisconsin Commission.

§ 1430. Sliding-scale method recommended—Maryland Commission.

Bachrach *v.* Consolidated Gas, Electric Light and Power Company of Baltimore¹ is a rate case. In fixing an 80-cent net rate for gas and an 8½-cent primary rate for electricity, the Commission notes that such rates afford a fair basis for the application of the sliding scale and recommends that steps be taken to secure the adoption of an agreement with the company for the application of the sliding scale for the regulation of gas and electric rates. The Commission says (at pages 183–184):

Another consideration prompting this rate is that it affords

¹ 14 A. T. & T. Co. Com. L. 154, January 13, 1913, Maryland Public Service Commission.

what we consider a fair basis upon which the "sliding scale" may be established, which a lower rate might have defeated altogether. We believe the sliding scale offers the best solution now in sight for the regulation of rates of gas and electric corporations, when the initial rate and the capitalization are equitably adjusted. In closing their brief the counsel for the company say: "The company is now prepared to consider with this Commission such a sliding scale for the automatic adjustment of charges for gas and electricity and the dividends to be paid to the stockholders of the company; this scale to be on the basis of the present rates for gas and electricity and the present rates of dividends as the starting-point; and the principle of automatic adjustment being a division between the public and the stockholders of the company of the future surplus earnings of the company." In view of what had transpired in the long and vigorous trial of the case, the Commission did not feel that it could then take up the subject of the sliding scale upon the terms suggested with entire justice to the public. Upon the basis of the rates here found to be just and reasonable, the Commission will be glad to confer with the company in an effort to adopt the sliding scale as the end of costly controversies and the establishment of amicable relations between the public and the corporation, and it believes that such adjustment would be far more satisfactory than any other. Should efforts in this direction fail, the remedy of further reductions remains to be applied.

§ 1431. Surplus should be created to equalize dividends.

In 1913 an investigation and report on the rates charged by the Commonwealth Edison Company was made to the City Council of Chicago by Ray Palmer, city electrician, and John E. Traeger, city comptroller. The report fixes the fair value of the property of the company, and recommends a reduction in existing rates of charge. In regard to the desirability of allowing the company to maintain a minimum surplus the report says (at page 5): ²

² Report to the Committee on Gas, Oil and Electric Light of the Chicago

Under normal conditions if the service given as a whole is of the highest grade and satisfactory, and the per cent return allowed on the investment is constant, the important varying factor in each year's business is the surplus. When the income increases in greater proportion than the proper yearly operating charges and expenses, including depreciation, the surplus will be greater for the year. There should be a fixed minimum surplus carried by the company to assure a fair return on the investment during the worst years of operation, but when the surplus is increased materially over this amount the income should be reduced by this excess through the reduction of rates. This is a fair principle to apply, as the investor is protected to a reasonable extent on his investment and the consumer is benefited by the reduction of rates applied to keep the surplus near a fixed amount or proportional part of the company's actual investment.

§ 1432. Relation of rates to service—Maryland Commission.

In *Bachrach v. Consolidated Gas, Electric Light and Power Company of Baltimore*³ the Commission refers to the relation between efficient service and reasonable rates as follows (at pages 159–160):

It would seem to follow from this language that efficient service and reasonable rates are to a considerable extent interdependent. It is to be understood, we take it, that in imposing upon corporations the duty of furnishing safe and adequate service and to provide the instrumentalities and facilities necessary to furnish such service, the general assembly intended, at the same time, to permit the corporation to earn sufficient money at least to provide the service exacted by law, and to pay operating expenses and a fair return upon its actual investment in property used for the public service. Nor could the legislature have been blind to the fact that extensions of the City Council on the investigation of the Commonwealth Edison Company, by Ray Palmer, City Electrician, and John E. Traeger, City Comptroller, May 14, 1913.

³ 14 A. T. & T. Co. Com. L. 154, January 13, 1913, Maryland Public Service Commission.

plant and further investments of capital would be required from time to time to meet demands for service which it would be the duty of the corporation to gratify, and which it would be within the power and duty of the Public Service Commission to order. These considerations involve, necessarily, within proper limits, some attention to the conditions under which capital may be procured and the affairs of the corporations kept constantly upon a reliable basis which will insure all of the service that the community requires at reasonable rates. This does not mean that excessive capital at the outset of an enterprise can be justified or approved, nor that capital unduly accumulated during the vicissitudes of business and resulting from bad management or other causes over which the public had no control, is necessarily entitled to recognition in establishing rates. But it can not be overlooked that whatever is done in the present case is for the future and that the effort is to correct, as far as possible, the errors of the past and still leave the company in a position to meet its obligations under conditions which will be just and fair to it and its customers.

DECISIONS RELATIVE TO RATE OF RETURN

§ 1433. United States Supreme Court.

In the case of the City of Louisville *v.* Cumberland Telephone and Telegraph Company ⁴ the Federal Court had considered 7 per cent as a fair rate of return, and had enjoined the enforcement of the rate in question, on the ground of confiscation. On appeal to the Supreme Court of the United States the estimate of probable income under the proposed rates was somewhat revised, and it seemed that the company would be able to earn a return of from 5 per cent to 8 per cent. The decree of the lower court was reversed. Justice Holmes in delivering the opinion of the court says (at page 436):

We express no opinion whether to cut this telephone company down to 6 per cent by legislation would or would not be confis-

⁴ 225 U. S. 430, June 7, 1912.

catory. But when it is remembered what clear evidence the court requires before it declares legislation, otherwise valid, void on this ground, and when it is considered how speculative every figure is that we have set down with delusive exactness, we are of opinion that the result is too near the dividing line not to make actual experiment necessary. The master thought that the probable net income for the year that would suffer the greatest decrease would be 8.60 per cent on the values estimated by him. The judge on assumptions to which we have stated our disagreement makes the present earnings $5^{10}/_{17}$ per cent with a reduction by the ordinance to $3^6/_{17}$ per cent. The whole question is too much in the air for us to feel authorized to let the injunction stand.

§ 1434. Federal Court in Alabama railroad rate cases.

In the Alabama rate cases ⁵ the special masters in their reports and District Judge Jones in his two opinions approving such reports hold that under the conditions attending the business of railroads in Alabama a railroad company is entitled to earn a net profit of 8 per cent. In the *Western of Alabama Railway* case Judge Jones says (at page 959):

That the business of railroads in Alabama, which must not only increase their facilities as the just wants of the public demand and meet existing competition, but face also the contingency of the building of new roads which will invade their territory and traffic, and encounter the loss of revenue, at uncertain periods, from poor crops, or diminished production or movement of manufactures in depressed conditions of trade, and the prevalence of epidemics and the interruption of business and losses from strikes, floods, and the like, is a much more hazardous and uncertain business than that of the gas company, which the Supreme Court allowed a return of 6 per cent, is obvious. The *Willcox* case is a controlling authority, to say

⁵ *Louisville and Nashville Railroad Company v. Railroad Commission of Alabama*, 196 Fed. 800, April 5, 1912; *Western of Alabama Railway v. Railroad Commission of Alabama*, 197 Fed. 954, May 27, 1912.

nothing of numerous cases in state and lower federal courts, to the effect that, under the conditions attending the business of railroads here, any schedules of rates fixed by law which will not permit the carrier, where its charges are just and reasonable in themselves, to earn a return of at least 8 per cent per annum upon the value of the property devoted to the service is confiscatory.

Special Master Gunter in his report in the Louisville and Nashville case⁶ discusses this subject as follows (at pages 126-127):

The law may restrict rates to reasonable charges, and actual or authorized earnings under given rates may be looked at to assist in determining whether the rates are confiscatory or not.

The law could hardly undertake to say a railroad should not earn more than a given per cent as long as the rates are in themselves reasonable to the public. There may be an unjust exaction from the public, though the rates bring no net income, or a meager one; and, vice versa, there would be injustice to the carrier in saying that its earnings should not exceed a given per cent without regard to the reasonableness of the rates that afford the returns—since such earnings may be the result of many causes besides high rates.

What the court means by this inquiry, therefore, I take it, is to inquire what per cent upon the value of the property used in interstate business would fall within and what without the line of confiscation.

And on this I find and report that complainant is certainly entitled to earn the legal interest of 8 per cent, but that a rate yielding 7 per cent or even 6 per cent in ordinary years would not be confiscatory because the volume of business has a general tendency to increase and the earning capacity of money to decrease. A steady income of 6 per cent or 7 per cent would therefore command par for the stock of any railroad yielding such a return.

⁶ Louisville and Nashville Railroad Company v. Railroad Commission of Alabama, United States Circuit Court, Middle District of Alabama, Report of William A. Gunter, Special Master in Chancery, 1911.

§ 1435. Arizona Commission.

These two cases, *Pacific Gas and Electric Company of Phoenix*⁷ and *Tucson Gas, Electric Light and Power Company*,⁸ involve the valuation of gas and electric plants for rate purposes by the Arizona Corporation Commission. In regard to the rate of return the Commission says in the Phoenix case (at page 720):

On July 10, 1912, according to Haskins and Sells report, this company was paying 6, 7, and 8 per cent interest on short-time notes. Of the \$96,436.60 borrowed, \$64,738.86 bore 6 and the remainder 7 and 8 per cent. The going rate of interest in Phoenix is 8 per cent for loans of varying size. The legal interest rate is 6 per cent. In fixing a rate of return for this property, we have in mind that the Commission will see that the company, under proper operation, earns the rate fixed. If, upon a showing made at the end of a year or some other reasonable period of time in which a test can be made, it is found the company is not earning the rate of return authorized, the rates charged consumers will be increased. The Commission will not permit competing plants to enter this or other fields where existing plants are rendering adequate service at reasonable rates. This eliminates the possibility of undue competition, and we believe is a factor to be considered in determining the rate of return.

In the Tucson case the Commission says (at page 746):

Much evidence was submitted to the Commission as to what should be a fair rate of return. Bankers of Tucson testified as to local interest rates. Other evidence was presented by citizens of Tucson and by the engineers of the respondent and the Commission tending to show what, in their judgment, was a proper rate of return. The legal interest rate in Arizona is 6 per cent.

Local prospects and conditions have been reviewed carefully

⁷ *Municipal League of Phoenix v. Pacific Gas and Electric Company*, 21 A. T. & T. Co. Com. L. 699, June 23, 1913, Arizona Corporation Commission.

⁸ *Huffman v. Tucson Gas, Electric Light and Power Company*, 21 A. T. & T. Co. Com. L. 725, July 9, 1913, Arizona Corporation Commission.

by this Commission, and from a review of all evidence presented, we are of the opinion that the respondent should earn not less than 8 per cent. Should respondent, by the practice of economies or the introduction of efficiencies, be able to earn as high as 10 per cent the Commission will not consider such excessive.

§ 1436. California Commission.

*City of Palo Alto v. Palo Alto Gas Company*⁹ involves the valuation of a gas plant for rate purposes. Commissioner Thelen in delivering the opinion of the Commission discusses the rate of return as follows (at pages 983-984, 987-988):

The company also claims an item of \$223,585 for interest. This is interest at the rate of $8\frac{1}{2}$ per cent on the cost of reproducing the property new, as reported by J. G. White & Company. In reply to the Commission's inquiry as to how the percentage was arrived at, Mr. Britton testified that the company sold its 5 per cent bonds at 85, and that while this amounted only to paying interest at the rate of 5.88 per cent there was a provision in the company's bond mortgage to the effect that no additional bonds may issue until the company has earned one and one-half times the amount of the bond interest. The discount on the bonds amortized over the life of the bonds brings the annual cost to 6.1 per cent, and adding thereto one-half of the 5 per cent makes the total of 8.6 per cent. I am not at all impressed with this line of reasoning. It amounts in effect to asking the public to pay additional rates so as to bring the earnings up to one and a half times the bond interest, which earnings are then to be capitalized to serve as the basis of future rates. Mr. Hockenbeamer, auditor of the Pacific Gas and Electric Company, testifies that on first-class mortgages in San Francisco on large projects bonds are being issued bearing $5\frac{1}{2}$ per cent interest, while smaller loans cost 7 or 8 per cent. I am convinced that the item of interest as claimed by the Pacific Gas and Electric

⁹ 2 Cal. R. C. R. 300, 18 A. T. & T. Co. Com. L. 966, March 12, 1913, California Railroad Commission.

Company is in excess of the amount which should be allowed. . . .

This brings me to a consideration of the final question in the case, namely, the amount of return to be allowed the gas company on its plant. No fixed percentage applicable to all cases and all classes of utilities can be established by this Commission. Each case must be judged on its own merits. It may well be that a utility in one community would be entitled to one rate of return while a similar concern in another community would be entitled to a different rate. It may be that a large and solidly established utility will not be entitled to as high a return as a smaller utility which is struggling against adverse circumstances. The most that can be said by way of general principles is that the return should be at least the average return which is earned by other classes of business of the same degree of hazard in the same community. The Commission in fixing a rate of return must be liberal, lest too strict a policy result in turning capital to other fields of enterprise. California needs development by public utilities, and this Commission's policy should be a broad and liberal one, so as to encourage capital to develop the state by legitimate public utility enterprises where needed. The Commission should be careful not to permit an inflation of prices in ascertaining the value of the property of a public utility used and useful for the public purpose, but should be liberal in establishing the rate of return on that value. Bearing in mind all the facts of this case as shown by the evidence, I find that a rate of return of 8 per cent on the value of the property of the Palo Alto Gas Company used and useful for the public purpose, as fixed herein, is at least a fair and equitable rate of return. If anything, the rate is too high by reason of the fact that the Commission has been more than liberal in establishing the basis of value.

In the matter of rates of Wells, Fargo & Company¹⁰ the Railroad Commission of California assumes a 10 per cent return on property invested in the business in the determination of reasonable rates of charge. The Commission says (at page 24):

¹⁰ Decision No. 841 of August 1, 1913, California Railroad Commission.

Allowing the company 10 per cent on the basis of valuation of its property of \$613,233.85 gives a charge of \$61,323.39 as the earning to which the express company is entitled after paying all of its operating expenses, taking care of depreciation and all charges necessary and proper in the conduct of its express business, and we shall prescribe rates which will allow the express company all of its charges to the railroads, its legitimate operating expenses, all of its other legitimate charges, including depreciation, and \$61,323.39 as a net earning upon its property.

§ 1437. Canada Commission.

In the Matter of the Application of the City of Montreal for a reduction in the rates of the Bell Telephone Company,¹¹ the Board of Railway Commissioners of Canada apparently based their decision in denying the application for the reduction in rates on a statement admitted by the applicant that a return of 8 per cent on book value was justifiable. The book value in this case was considerably less than the estimated replacement cost.

§ 1438. Chicago telephone appraisal.

In his report on the rates of the Chicago Telephone Company Professor Bemis discusses the fair rate of return at considerable length. He holds that in fixing the rate of return the actual return basis on which the company's securities are bought and sold should be carefully considered. He states that in the case of a large and well-established enterprise like the Chicago Telephone Company the proper test is "such rate of return as would render possible the sale of additional stock and bonds when needed from time to time for extensions." He says (at pages 56-59):¹²

¹¹ 13 A. T. & T. Co. Com. L. 93, October 28, 1912, Canada Board of Railway Commissioners.

¹² Report on the investigation of the Chicago Telephone Company submitted to the Committee on Gas, Oil and Electric Light by Edward W. Bemis, October 25, 1912.

Any one familiar with the numerous decisions of rate commissions is aware of how uncertain and vague are most of their expressions upon the proper rate of return. The courts have been inclined to uphold any rate which yielded from 4 per cent to 6 per cent return. Their theory has appeared to be that if the rate was as high as bonds were netting the investor in the locality, which was usually from 4 per cent to $5\frac{1}{2}$ per cent, the rate was not confiscatory. State commissions have held to a higher rate.

New securities in the lighting business in Massachusetts, however, have been ordered by the State Gas and Electric Light Commission to be sold at such premiums as to net the investor only 5 per cent to 6 per cent.

In the case of a large, old, and well established enterprise like the Chicago Telephone Company, the proper test would appear to be such rate of return as would render possible the sale of additional stock and bonds when needed from time to time for extensions. In other words, the rate should be such as to keep the securities at par, or slightly above. The market for the securities of a well-known company is highly competitive. If investors are willing to buy stock on a 6 per cent basis, and the company insists upon paying 8 per cent dividends, the investors will quickly run up the price to such an amount, say $133\frac{1}{3}$, as will net the investor only 6 per cent on what he pays for the stock. We may argue that the business is such that the investor ought to have 8 per cent; but the investor, having his own opinion on the subject, insists upon buying on a 6 per cent basis, or whatever may be the actual market quotation.

Applying these observations to the local telephone situation, we find that during 1911 the company had outstanding \$5,000,000 of 5 per cent bonds, which have been constantly sold above par since their issue in 1908. Furthermore, the company during the present year has made another issue of \$14,000,000 of such bonds, which are also selling above par. Its \$1,000,000 of loans from the banks were obtained at 4 per cent to $4\frac{1}{2}$ per cent interest. The \$27,000,000 of 8 per cent stock sold at 120 to 130 during most of the three years prior to the exchange of nearly all of that which was owned by the minority stockholders

in 1911, for the 8 per cent stock of the A. T. & T. The 8 per cent stock of the latter company has been selling for some time at 140 to 144; yet this is in the face of the announcement in the last report of the A. T. & T. that on its capital and that of the associated Bell companies it will not hereafter expect or encourage more than 8 per cent.

Now an investor in an 8 per cent stock at 140 nets on the investment only 5.71 per cent. Even at 130 he only nets 6.15 per cent, and at 125 he nets 6.4 per cent. An investor content with 6.5 per cent return would only pay 123 for the stock. Since the stock has been above that price most of the time during the last three years, it may be inferred that the investor in Chicago Telephone Company stock not only does not ask a return of 6.5 per cent on his actual investment in order to buy it, but that in the bidding of the competitive market he forces up the price so that he can not make 6.5 per cent; in fact, by forcing the price above 133, as has been the case recently, the investing market makes it impossible to realize even 6 per cent.

To all this it is urged that the stock, at least of the local company, is more precarious than the stocks of the local gas or electric light companies, because of the existence of competition from the Illinois Tunnel Company. That competition has not been serious thus far, and the investor, judging from the above-named market quotations, evidently does not expect it to be; neither do the officers of the Chicago Telephone Company express any fear from that source.

Of more force is the claim that stockholders may pay more for stock in expectation of occasionally having a chance to buy new stock issues at par. . . .

In all this it must be emphatically asserted that a return of 6.5 per cent to 7 per cent is not here considered as a fair return in the early days of the telephone company, when the risks of developing a new art were great. As is elsewhere shown, the returns in these early days were fully commensurate with the risks assumed.

The problem before us now is not so much an ethical problem of what a company ought to receive as it is what return, as a matter of fact, will tempt the investor to furnish the money

needed for the growth of the business. If the lessons of the stock market point to 5 per cent on bonds and to 6.5 per cent to 7 per cent on stock as sufficient for this purpose, in the case of the Chicago Telephone Company, then such a rate of return is reasonable.

§ 1439. Commonwealth Edison Report, Chicago.

In 1913 an investigation and report on the rates charged by the Commonwealth Edison Company was made to the City Council of Chicago by Ray Palmer, city electrician, and John E. Traeger, city comptroller. The report fixes the fair value of the property of the company and recommends a reduction in existing rates of charge. The report takes 7 per cent as a fair rate of return. The question of reasonable return on investment is discussed as follows (at pages 68-69):¹³

Unquestionably capital can be attracted to large properties on more favorable terms than to small ones of proportionate value and efficiency, so that the rate of return need not necessarily be as high in the case of a utility like the Commonwealth Edison Company, with fairness to the investor, as in the case of smaller properties. Nevertheless the return should not be fixed so low as to retard the natural supply of capital necessary for future requirements. A little consideration will show that the rate of return should be somewhat above the average interest rates on the highest grade securities in order to attract investors and to furnish an incentive for developing the business, which in the end means good service to the consumer at a minimum cost.

Capital is doubtless entitled to returns commensurate with the risks incident to the business. The pioneers in the public utility field should have, and in most cases have received, returns largely in excess of what would be considered a fair return

¹³ Report to the Committee on Gas, Oil and Electric Light of the Chicago City Council on the investigation of the Commonwealth Edison Company, by Ray Palmer, City Electrician, and John E. Traeger, City Comptroller, May 14, 1913.

on these same investments to-day. But it should not be supposed that the early large returns should be continued when the development of the business, the elimination of competition, and the necessities of the community have largely reduced the risk of the investment.

While the Commonwealth Edison Company can obtain a certain amount of capital for its needs by issuing 5 per cent bonds at practically par, it does not follow that this method of financing would be the most desirable to follow exclusively. In order to make a sufficiently good showing to enable these bonds to command that figure, there must be a large equity in the property and the net earnings after all operating expenses and fixed charges are deducted must be considerably in excess of the bond interest requirements. In addition, the management should be largely interested as stockholders, *i. e.*, owners, to assure best operation. . . .

While rate regulation is of advantage to the consumer it is not embarrassing to the company if properly handled. But if all profits above low interest returns on the investment in actual use were devoted to rate reduction, there would be little incentive on the part of the company toward introduction of economies in operation.

After due consideration has been given all factors bearing on the question, a rate not greater than 7 per cent seems reasonable as a fair return on the actual investment in this case. The relative proportions of stock and bonds of the total investment is a factor which has a direct bearing on the question of rate of return. Figure 10 is of interest as it enables the return on the stock to be seen at a glance when the rate on the whole property is known, assuming that the bonds bear 5 per cent interest.

§ 1440. Maryland Commission.

*Bachrach v. Consolidated Gas, Electric Light and Power Company of Baltimore*¹⁴ is a rate case. In regard to rate of return, the Commission says (at pages 177-178, 179-180):¹

¹⁴ 14 A. T. & T. Co. Com. L. 154, January 13, 1913, Maryland Public Service Commission.

The rate of return should, primarily, be based upon the actual investment in the property and should bear some relation to the rate of interest allowed by law, as that is the legislative standard by which the just return for borrowed money is fixed. In ordinary transactions, however, a fixed ratio is established which does not vary with the circumstances of the borrower, and assuming that the borrower is solvent the payment of the interest is certain. But in the case of public service corporations, whose revenues are subject to fluctuations, some latitude must be allowed so that the deficits of one year may be made good from the larger profits of another year and preserve an average return which will be fair and just and attract capital for the extension and improvement of the corporation's property. This supposes a concern whose investment is conservative but ample to give good service. But even in the case of a public service corporation whose financial history, extending over many years, is characterized by practices which can not be approved, but which can not be repeated under the regulation to which it is now subjected, some consideration must be given to this feature of the case. Whatever is done now must bear fruit in the future. The citizens of Baltimore are dependent upon the defendant company for two of the prime necessities of modern life, and its extension to meet the growing demand for its products is one of the conditions upon which the growth of the city and the multiplication and development of its industries depends. That the sins of overcapitalization impose a burden upon the people is undeniably true, and they can not be too strongly condemned. But the burden would not be lightened, but made heavier, if conditions should be imposed upon the present management of the company, which is not responsible for the things that we complain of, which would seriously impair its ability to meet the just demands of the community for service. . . .

We are not to be understood as agreeing with the contention that a rate is not unreasonable so long as it falls short of being prohibitive, or that the earnings of the corporation have no relation to rates so long as they do not reach the point of extortion; and we wish to emphasize this by repeating that the legislative standard of 6 per cent with some margin for uncer-

tainties furnishes a rule which in a general way should be controlling. A number of reasons might be given for this opinion, but it is unnecessary to prolong the discussion. It is enough to say that a rate that barely escapes the level of confiscation will in a short time produce a condition of squalor, and squalor spells inefficiency. The rate that allows returns that are unreasonably high when compared with returns from other useful lines of business in time produces arrogance, which in turn arouses hostility upon the part of the public that may lead to disastrous results.

§ 1441. Nebraska Commission.

Re Application of Lincoln Telephone and Telegraph Company ¹⁵ for authority to increase rates involves the valuation of a telephone plant for rate purposes by the Nebraska State Railway Commission. The Commission holds that under the circumstances of this case a return of 7 per cent is not unfair to the public. The Commission says (at pages 159-161):

The Commission is not satisfied to agree with some decisions that have come to its notice, to the effect that any earning is not confiscation. An investor has a right to expect not merely that his investment shall remain intact and not be gradually eaten away by losses or depreciation, but he has also a right, which we think can not be disputed, to an earning which is a reasonable interest on the investment. We are not prepared to determine upon the rate which shall irrevocably bind the Commission as a fixed per centum that shall in all cases be demanded as of right, because of such decision, but will leave it open to determine in each particular case as to what may be the reasonable earnings to which the corporation is entitled.

It must always be borne in mind that different classes of utilities must earn different rates of return in order to be able to finance their needs and meet the reasonable demands of the

¹⁵ 19 A. T. & T. Co. Com. L. 134, June 26, 1913, Nebraska State Railway Commission.

public for extensions and enlargements of plant. This can never be done except at a sacrifice, if the returns allowed by the regulating body are too low to satisfy the investing public. But the rates need not always be the same. That is, for some classes of securities, which are first liens on property, and practically a guarantee that the principal as well as the interest will be faithfully and promptly paid, 5 per cent may be ample. In others, where there is some slight risk, 6 per cent would hardly be adequate, and for the stockholder who gives a first lien on his property through bonds and takes all the chances of the various vicissitudes through which a new corporation is often obliged to pass before reaching a steady dividend-paying period, this Commission is of the opinion that 6 per cent ought to be the minimum, at which rate a corporation can hope to invite subscribers to buy stock with a fair expectation of having its hopes realized and being able to finance its needs. Nor do we mean to be understood in this as saying that 6 per cent is all that will be allowed in such cases. There are reasons why, even in the same class of corporations, there will be fluctuations and differences, dependent largely upon the conditions, the location, the class of people served, efficiency of management, and other considerations too numerous to mention, all of which have more or less bearing on the net earnings of any public utility.

In at least five of the notable telephone cases brought before Eastern commissions in the past two years, 8 per cent has been designated as a reasonable rate of return on the value found by the commissions, and these decisions are entitled to the respect of the entire country; so that if corporations of this kind in the East are allowed to earn 8 per cent, where money, as a rule, brings less interest than it does out West, and where capital is more easily secured at lower rates than in this section of the country, this Commission can hardly demand that the investing public shall be held to lower rates, or expected to serve the public with less compensation. . . .

This Commission does not care at this time to bind itself to either 6, or 7, or 8 per cent, and promulgate any of them as a fixed rate of return which will be fair in all cases. Nor for the purposes of this case is it necessary to reach a final decision that

8 per cent is necessary, or right. It does, however, feel that to calculate the rate of return at 7 per cent on the present depreciated value of the plant will not be unfair to the public.

In a dissenting opinion Commissioner Hall states that in view of the imperfect service being rendered by the company a 6 per cent net return would be reasonable. Commissioner Hall says (at pages 696-697):¹⁶

The commission has allowed the applicant 7 per cent interest as a net return to the stockholder and with this I would have no criticism to make if the company were delivering first-class commercial service to its patrons; but if the service is to be considered, then I think the company should be content with 6 per cent net return after all operating expenses, taxes, insurance, losses, current maintenance and depreciation have been paid for out of the operating income, and I think the Commission should hesitate to make such an abnormal rise in rates that the stockholder may receive 7 per cent net unless there was no doubt that the company was capable of delivering first-class service to its patrons.

The Nebraska State Railway Commission has also held 7 per cent to be a just and reasonable rate of return for a telephone company in the following cases:

Re Application of Lincoln Telephone and Telegraph Company to increase rates at Strang, 22 A. T. & T. Co. Com. L. 888, September 1, 1913.

Re Application of Lincoln Telephone and Telegraph Company to increase rates at Grafton, 22 A. T. & T. Co. Com. L. 893, September 1, 1913.

Re Application of Lincoln Telephone and Telegraph Company to revise rate schedule at Beatrice, 22 A. T. & T. Co. Com. L. 898, September 1, 1913.

Re Application of Nebraska Telephone Company to revise rate schedule at Lexington, 22 A. T. & T. Co. Com. L. 877, August 11, 1913.

¹⁶ 21 A. T. & T. Co. Com. L. 661, August 30, 1913.

§ 1442. Nevada Commission.

The case of *City of Ely v. Ely Light and Power Company*¹⁷ involves the valuation of an electric plant for rate purposes. The Commission discusses the rate of return as follows (at pages 593-594):

Counsel for respondent argues at length to show that the respondent company is fairly entitled to earn 12 per cent upon the value of the investment. Upon this point it is deemed proper to say that it is not the function of a public service commission to determine just how much return upon the investment a public utility is entitled to receive. Our duty is to ascertain and determine what are reasonable rates, all the facts, circumstances, and conditions considered. It may very well be, and frequently is, the case that one public service corporation realizes a large net revenue upon the basis of low rates because of the magnitude of its business, while upon the other hand similar corporations realize very little net revenue, and in some cases none, because of the fact that the business is so small.

Evidence was introduced showing that 12 per cent was the prevailing rate of interest in the Ely District. This, however, is not controlling. The 12 per cent interest rate is usually applied on loans of comparatively small amounts and short duration. Larger and long-time loans are frequently made at 8 per cent, and sometimes less. It is a matter of common knowledge that county and municipal bonds in Nevada which are secured by the whole resources of the county or municipality are generally floated at about 6 per cent, and even at 5 per cent. There are two reasons for these lower rates. One is that (speaking generally) such bonds are more readily convertible into money than are most other forms of securities; secondly, they usually have a considerable length of time to run, and hence are desirable as permanent investments. The first consideration named may not apply to an investment in a public service corporation, but the second clearly does. Public utilities are usually long lived. Measured by human standards of existence,

¹⁷ 24 A. T. & T. Co. Com. L. 578, June 7, 1913, Nevada Public Service Commission.

they may fairly be called permanent. If a bank could, for example, loan all of its money upon good security for long periods of time, there is no doubt that the rate would be very much less than 12 per cent. As a matter of fact, even comparatively small loans well secured are frequently made by banks in this state at 8 per cent, and the lawful rate is 7 per cent. The Commission, in dealing with such a case as this, can not regard the statement that the banks of Ely generally charge 12 per cent upon comparatively small loans as furnishing a fair standard by which to determine the amount of revenue which the respondent company is entitled to earn. We do not wish to be understood as saying that under no circumstances would we look with favor upon a return of 12 per cent or even more. But our first consideration is the question of reasonable rates to the patrons of the respondent company.

The Supreme Court of the United States has well said that it does not by any means follow that a reduction of rates means a corresponding reduction of the revenue of a public service corporation, because it may very easily come to pass that lower rates will lead to larger business, and that the public utility may gain instead of lose by the reduction.

§ 1443. New Jersey Commission.

In *Re Rates of the Public Service Gas Company*,¹⁸ decided December 26, 1912, the New Jersey Board of Public Utility Commissioners allows a return of 8 per cent on the fair value of the property of the company. The Board says (at page 502):

We do not contend that any particular rate of return is applicable in all cases. In our judgment, the rate of return to which a public utility is reasonably entitled is a question of fact to be determined in the light of all of the evidence and on a consideration of all of the facts in each particular case.

It is clear, however, that the rate of return must suffice to attract the capital, which in the case at bar is large in amount, required year by year in making the additions and extensions

¹⁸ 1 N. J. B. P. U. C. 433, 15 A. T. & T. Co. Com. L. 354.

to manufacturing plant and distribution system which the growth of the communities served demands.

Tables V, VI and VII have been constructed to show the relative results at different rates of return.

In our judgment, based on all of the evidence and a consideration of all the facts, a rate of ninety (90) cents per thousand cubic feet will furnish a fair return at not less than 8 per cent on the fair value of the property used and useful in supplying the customers of the Public Service Gas Company in the Passaic Division.

The case of *Gately & Hurley v. Delaware and Atlantic Telegraph and Telephone Company*¹⁹ involves the valuation of a telephone plant for rate purposes. The existing rates charged by the company were upheld by the Board, as they netted the company considerably less than the amount determined by the Board to be a fair return upon the fair value of the property. For the purposes of this case the Board took 8 per cent as fair return. The Board says (at page 571):

A return of 8 per cent on the fair value of the company's investments seems to us fairly equitable, when consideration of all conditions is taken; especially as this return is to cover all such items as bond discount, brokerage or other costs of obtaining capital. The technical apparatus is still in process of change. The proper allowances for depreciation are still, of necessity, largely conjectural. Moreover, so far as this particular company is concerned, brisk competition is still offered in many parts of its territory.

§ 1444. New York Commission, Second District.

In *Buffalo Gas Company v. City of Buffalo*²⁰ the company asked the New York Public Service Commission

¹⁹ 1 N. J. B. P. U. C. 519, 14 A. T. & T. Co. Com. L. 39, January 7, 1913.

²⁰ *Buffalo Gas Company v. City of Buffalo*, 3 P. S. C. 2d D. (N. Y.), 553, 23 A. T. & T. Co. Com. L. 244, February 4, 1913.

for the Second District to fix a rate for gas supplied to the city of Buffalo. The case does not involve the rates charged to general consumers. The cost of manufacture of gas per thousand cubic feet was increased owing to the competition of a natural gas company. This competition reduced the output of manufactured gas and consequently increased the per unit cost over what it might normally be in a city of the size of Buffalo. The Commission fixed a 90-cent rate for gas furnished to the municipality. The company was charging \$1 per thousand cubic feet to private consumers.

In this case the Commission notes that there are several conflicting considerations in the determination of a fair rate of return, though the ordinary rule would be that the greater the risk the greater the reasonable rate of return. There may be conditions where increased risk will necessitate a reduction in the fair rate of return. This may be the result where competition has resulted in the destruction of the profitability of an enterprise. Chairman Stevens discusses this subject as follows (at pages 645-646):

Upon this question of rate of return there are several important but conflicting considerations. First, one element of great weight is the risk involved to those investing in the business. Clearly, the greater the risk the greater must and should be the attractions offered by the profits to be gained. Hence it is elementary in these matters, the greater the risk the greater should be the return. This principle is basic in business operations. On the other hand, when the forces of competition come in play practically, the principle tends to be negative. If the price is made commensurate with the risk which is involved because of the competition with a company which has the advantage of a less cost of production or operation, such greater price operates to throw business to the already favored competitor, and the result tends to a compulsory lower price as a

necessity in the effort to retain existing customers. Again, the public has never undertaken to guarantee a fixed return, nor indeed any return, to investors in a public service. It is good public policy to make the returns in such a service as secure as the nature of the case will admit, to the end that the returns may be reduced to the lowest reasonable point and thus the rate be as low as is possibly consistent with justice. But some risks the investor must always take. He must always have in mind the competition of a new and superior service produced at a less cost which will secure all the custom. Carriers by wagon simply have to drop out of business when confronted with the competition of canals and railroads. There is some difficulty in appreciating the equity which makes it just that a consumer on street A should pay an additional price for his manufactured gas because the company has lost a customer on street B who has gone over to the use of natural gas at a third the price for which manufactured gas can be afforded. If the consumer on street A were seeking to have the company supplying manufactured gas extend its service by the investment of new capital which would be exposed to the natural gas competition, he would have to recognize the risk and pay the requisite price.

The Commission uses 6 per cent as a fair rate of return under the conditions under which the Buffalo company is compelled to operate.

*Fuhrmann v. Cataract Power and Conduit Company*²¹ is a case involving a valuation for rate purposes. In regard to rate of return, Chairman Stevens says (at page 738):

It should be clearly understood that in reaching these results the Commission does not undertake to fix a precise rate of return upon the capital invested in the public service. Nominally, the return here shown is approximately 6 per cent. Applying the rate as reduced to the business of the future, there is not the slightest question but that it will amount to considerably more

²¹ *Fuhrmann v. Cataract Power and Conduit Company*, 3 P. S. C. 2d D. (N. Y.) 656, 18 A. T. & T. Co. Com. L. 1015, April 2, 1913.

than this. No one can tell what it will be until the rate has been tried out. The Commission simply satisfied itself that the proposed reduction would not reduce the revenue below a 6 per cent return, while it seems almost equally certain that the rate will be considerably above that.

§ 1445. Wisconsin Commission.

The case of *City of Milwaukee v. The Milwaukee Electric Railway and Light Company*²² involves the valuation of a street railway for rate purposes. The Commission issued an order slightly reducing the existing rates of charge. In regard to rate of return the Commission says (at pages 240-241 W. R. C. R.):

The determination of what is a proper rate of return upon the reasonable value of the property is dependent largely upon local conditions which surround the plant and may be expected to vary with each particular case. . . .

The distinction seems clear that there are two interests represented in the investment, the bondholders seeking a secure and permanent rate of return and the stockholders interested primarily in participating in the control and returns accruing from operation and appreciation of the investment. . . .

Interest is dependent upon the location and nature of the undertaking, the security, the degree of convertibility, the amount of risk, skill and supervision necessary to place the loan, and other factors. In the public utility business it is dependent also upon the competition for available investment resources by other types of industry. Necessarily the interest rate is less in a well-established, well-managed undertaking than when the business is new and just being placed upon a paying basis. . . .

Profit is usually defined as consisting of indemnity for risks assumed by the promoter and reward for the skill of personal management. It is obviously a large part of the cost of production in an undertaking of a new or untried character, or where

²² 11 W. R. C. R. 1, 14 A. T. & T. Co. Com. L. 197, August 23, 1912.

there is necessity for high skill in purchasing and management of men, or where the industry must be constantly shaped to meet future conditions. Generally speaking, these factors will vary with the extent of the turnover of the business and may be expected to be greater under competitive rather than under monopoly conditions.

The Commission then refers to certain contentions of the company as to factors that should be included, and says (at pages 242-243 W. R. C. R.):

Undoubtedly these factors must be taken into consideration and given such weight as their importance will justify. The increases in operating expenses, especially the expenses for labor, is marked, but is offset by the increased number of passengers per car-hour. Some noticeable slack is noticed in the increase in gross earnings during the panic year 1907, but these conditions were general and extend to other utility businesses. Compared with competitive enterprises, the stability of earnings during panic years is marked. The risk of depreciation, damage suits, and fire are provided for with what past experience would indicate to be liberal reserves.

A feature of considerable importance is the rate of return to efficient management. In determining the return to the management some allowance should be made in some manner for special efficiency. To deny this is to take away one of the greatest incentives to economy.

The question of compensating for past losses has already been considered as an element in estimating going value. The rate of earnings upon the property used and useful, with which the present case is concerned, must be determined with reference to present and not past conditions.

It appears that an allowance for interest of from 5 to 6 per cent can not be said to be unreasonably low to compensate for the cost of securing capital. Such amount is considerably above the figure at which bonds have been disposed of in the past and will care for such discount as it has been necessary to give to make the securities salable. If to this is added an

allowance of from $1\frac{1}{2}$ to 2 per cent to cover profits, the total rate of return is sufficient to cover such risks as are evidently inherent in the business and for which the owners are entitled to compensation.

In *Superior Commercial Club v. Superior Water, Light and Power Company*²³ the Commission discusses at considerable length the factors to be considered in determining a fair rate of return (at pages 757-759):

Respondent contends that the valuation of the property and rate of return upon such a property are complementary and that the amount allowed as a reasonable return upon the investment must be determined after consideration of past risks already contained in the total of the property. It is contended that the rate of return should be fixed to cover: (1) A rate of interest made up of pure interest plus additions due to narrow market and lack of established value for purposes of sale or hypothecation plus an addition for lack of an established earning power; (2) a rate to cover inherent risks of the business; (3) a rate to cover risks due to short-term and non-exclusive franchises; (4) a rate to cover community hazards. Where the valuation is restricted to the mere cost of reproducing the physical property service value of the lowest measure of economic value of the plant to the community, it is stated that the return upon the investment should be taken at 10 per cent for the water plant, 11 per cent for the gas plant, and 17 per cent for the electric plant. If bond discounts on 6 per cent securities are included in the capital value and organization expenses are added, thus eliminating in part the element of narrow market and the lack of established earning power, the proper rates are estimated at $8\frac{3}{4}$ per cent for water, $9\frac{1}{2}$ per cent for gas, and 15 per cent for the electric plant. If a further addition is made to cover discarded apparatus, shrinkage in the value of portions of the existing property, etc., thus eliminating the hazards due to the state of the art, changed conditions, etc., these rates of return may be further reduced to $8\frac{1}{4}$ per cent on the water

²³ 11 W. R. C. R. 704, November 13, 1912.

plant, $9\frac{1}{4}$ per cent on the gas, and 11 per cent on the electric plant. If in addition to this there is added to the value that sum by which net earnings have fallen short of covering depreciation and a 7 per cent return upon the water department, a $7\frac{1}{2}$ per cent return upon the gas department, and an 8 per cent return upon the electric department, these amounts covering compensation for the losses sustained in the past due to building up the business, then it is contended that the fair rate of return may be reduced to 7 per cent on the water department, $7\frac{1}{2}$ per cent on the gas department, and 8 per cent on the electric department.

Interest and profits are necessary in all lines of industry and callings in order to secure the capital and the abilities that are required. Necessary charges of this nature are therefore, in a sense, as much a part of the cost of production of the products turned out and of the services rendered as any part of the operating expenses. All this is quite generally admitted. Such differences of opinion upon these points as are frequently arising in cases before us are concerned with what rates or amounts that should be allowed for such charges rather than with the necessity of providing for such charges at all.

The minimum rates of interest and profits that must be allowed in cases of this kind are those under which the necessary capital and business capacity can be had. If less than this is allowed, then these factors will be withheld, not only from original undertakings, but from extensions or additions to existing plants. Such a course would deprive the public of needed service and would clearly be contrary to public policy.

The rate of interest at which capital can be had is influenced by the supply and demand for loanable funds; by the risks involved; by the care and work required in placing the loans and in looking after them; by whether the loans are readily transferred or converted into cash; and by other local and general conditions. The rate of profits depends upon the supply of business capacity and initiative, the risks involved, the nature of the undertakings, and many other conditions. These rates therefore vary as between the different industries and the different classes of service. They even vary as between the

various public utilities in the same place, as well as often also between like utilities in different localities.

The supply of capital and business capacity seems to vary more with general than with local conditions, although it is affected by both. Risks and many other conditions by which rates are affected seem to be more particularly dependent on local conditions. As public utilities are monopolistic in their nature, they are, to some extent at least, relieved from active competition. This is especially true where they are operating under indeterminate or more exclusive franchises. Active competition is one of the more important elements of risks. To the extent to which public utilities are relieved from such competition they are also relieved from one element which makes for higher charges for interest and profit.

But even where active competition is minimized, public utilities are not free from risks. Individual users are often providing their business houses and factories with light, power and even water through their own plants. New inventions and discoveries are constantly changing present conditions, and such changes, even when profitable, in the end often result in serious temporary losses. During the past twenty years, for instance, gas has almost been driven out of the illuminating field by electricity. Unexpected stagnations and radical changes in the growth of cities often lead to considerable losses, and this may also be the effect of far-reaching ordinances and other legislative requirements. The marked tendencies of indeterminate or more exclusive franchises to reduce capital charges is not as yet felt to its full extent in this state because of the uncertainties in the minds of investors as to whether the policy granting such franchises will be permanently adhered to.

City of Green Bay v. Green Bay Water Company ²⁴ involves the valuation of a water plant for rate purposes. The Commission states that an allowance of 7 per cent on the fair value of the property "will not be unreasonable when the business is fully developed" (page 255).

²⁴ 12 W. R. C. R. 236, January 6, 1913.

CHAPTER XXXIII

Contracts, Water Power, and Patent Rights

- § 1450. Municipal lighting contract—New York Commission, First District.
1451. Contracts with consumers—California Commission.
1452. Water-power contract—Federal Court and Arizona Commission.
1453. Water-power contract—Nevada Commission.
1454. Water power—New Hampshire Commission.
1455. Water power—Wisconsin Commission.
1456. Water-power contract—New York Commission, Second District.
1457. Rental of transmitters and receivers—California Commission.
1458. Rental of transmitters and receivers—Oklahoma Commission.
1459. Contract with General Electric Company—New York Commission, Second District.
1460. Patent rights—Wisconsin Commission.
1461. Savings effected by joint operation—Arizona Commission.
1462. Water rights—United States Supreme Court.

§ 1450. Municipal lighting contract—New York Commission, First District.

In the Kings County Lighting Case¹ the company claimed that there should be included in the valuation a capitalization of profits from an exceedingly profitable street lighting contract which, at the time of the valuation, still had five years to run. The Commission rejected this claim. The matter is discussed by Commissioner Maltbie as follows (at pages 692–693):

The contention of the company as represented by the testimony of this witness in substance is that the profits from this contract for its remaining life shall be capitalized, that the amount thus reached shall be added to the fair value of its property, and that the rates shall be such as will provide a fair

¹ 2 P. S. C. 1st D. (N. Y.) 659.

return thereon. In other words, the city or the taxpayers must pay an exorbitant price for street lighting, and yet the general consumers must pay enough to yield an ample return (10 per cent is urged) upon the capitalized value of such abnormal profits, capitalized upon a basis of $4\frac{1}{2}$ or 5 per cent. The absurdity of such a contention is apparent. Paraphrased, it is that the more the city pays the more the consumer must pay. If there is any relationship between these two factors, it is that the more the city pays, the *less* the consumer should pay, and this has been recognized in many franchises for water and lighting plants. Indeed, the original contract and its history indicate that street lighting and the price obtained therefor have always been very important factors, and at the beginning were the chief concern of the company. Apparently, the original plant was built principally with a view to this business, and the contract was a very important inducement to the company to begin operation. It is obviously unfair that this very contract should be used to make the public pay a higher rate than they otherwise would.

The argument of the company proves too much, for, if it is correct, it could be argued that every contract should be similarly treated. The public lighting contract resembles other contracts between company and consumers. All are property, and presumably all are profitable. Those that are could be capitalized if this one may, and the more profitable they are the higher must the rates to others be placed. Conversely, if any one should not be profitable, the capitalized loss should be subtracted from the fair value of the other "property," and the rates lowered accordingly.

It should be noted, further, that the company does not claim that the contract itself represents any investment or that any deposit, fee or payment was required by the authorities.

The Commission can find no reason in law or equity which would justify the capitalization of the street lighting contract and the inclusion of such capitalization in the "fair value" upon which the company is entitled to earn a fair return from the sale of gas to general consumers. It is unnecessary, therefore, to consider the methods of determining its value. If the profits

from street lighting are to be segregated and the rate for general consumption established irrespective of them, the proper method to be followed will be outlined further on in this opinion

§ 1451. Contracts with consumers—California Commission.

Re Water Rates and Service in the County of San Diego ² involves an application by a water and irrigation company for an increase in its rates of charge. The Commission holds that under the Public Utilities Act the Commission has the right to fix rates of charge, existing contracts with consumers to the contrary notwithstanding. Commissioner Eshleman reviews many court decisions with regard to this matter. He says (at pages 494–495, 501–502):

It appears sufficiently from what has been stated herein and from the cases herein reviewed that it is not violative of the provision of the Constitution of the United States which denies to the states the power to impair the obligation of contracts for a state to fix a rate which shall apply to a public utility such as a water company which conflicts with the rate agreed upon by such utility and its consumers in a contract valid when made, and if this rule can be invoked in reference to a water company it of course can be equally well invoked in the case of any other utility. . . .

It can no longer be questioned that this Commission has the right to fix the rates which may be charged by the applicant and prevent deviations from such rates, contracts to the contrary notwithstanding, and by reason of the fact that this same question is continually coming up with reference to utilities other than water companies I deem it proper at this time that we announce a similar conclusion with reference to all utilities. It is my opinion that no contract affecting the relationship which exists between a public utility and its patrons or in any

² 2 Cal. R. C. R. 464, 18 A. T. & T. Co. Com. L. 1002, March 28, 1913.

other way affecting the public is of any effect in the face of this Commission's authority, except this Commission shall approve the same as a rate which it has a right to do under the Public Utilities Act, providing such action will not bring about discrimination.

Most that has been said heretofore refers to contracts made prior to the amendment of the Constitution in 1911 and the passage of the Public Utilities Act in 1912. Contracts entered into between a public utility and its consumers subsequent thereto do not even for the time being establish the relationship of the parties with the condition subsequent that on the action by the state with reference to the subject matter thereof such relationship can not longer continue, and such contracts now require, as a condition precedent to their having any effect whatsoever, the approval of this Commission, and when they have the effect of fixing a rate, such approval merely amounts to an establishment of the rate therein agreed upon and does not prevent the Commission, as it may with any other rate, from thereafter changing said rate as provided by law.

Before leaving this subject, however, I think it well to say that contracts entered into in good faith between public utilities and their patrons that are not forced or compelled in any way, and are based upon an adequate consideration, should be adopted so far as is consistent with adequate regulation as the basis for the rates for the service performed by a public utility for its patrons. But at any time when changing conditions bring about the necessity of a change in rate the Commission should exercise its undoubted authority to depart from the conditions of any such contract, however proper such contract might have been in its inception.

The utilities of the state, however, must not take this announcement as authorizing them to repudiate contracts which they now have. Contracts made prior to the recent amendments of the Constitution and the passage of the Public Utilities Act probably fixed the status of the parties as regards their mutual relationship until the public authorities act, and at any event the matter should be presented to this Commission before either party attempts to change such relationship.

§ 1452. Water-power contract—Federal Court and Arizona Commission.

In *Bonbright v. Corporation Commission of Arizona*³ the Federal Court granted an interlocutory injunction against the enforcement of an order of the Corporation Commission of Arizona fixing the rates of charge of the Pacific Gas and Electric Company. The company possessed a contract with the United States Reclamation Service, by which the company secured power for 1½ cents per kilowatt hour. This contract had about seven years to run. The Commission quotes a witness as having testified for the company that the cost of electricity under this contract exceeded the cost at which power could be generated by the steam plant. While the Commission did not predicate rates on a lower cost of production than that under the contract, it did determine that such contract "can have no value in considering the question of rates, but conversely might be considered a liability." The court, on the other hand, holds that this contract has a substantial value that should have been included in the fair value of the plant. Circuit Judge Morrow says (at pages 52-54):

There is another feature of the case which appeals to us for consideration, and that is the valuation of the contract with the Federal Government for power. The company values the remaining term of this contract at \$110,000; the Corporation Commission omitted it altogether. It appears that the Reclamation Service, proceeding under the provisions of the Act of Congress of June 17, 1902, ch. 1093, 32 Stat. 388 (U. S. Comp. St. Supp. 1911, p. 662), formed a project for impounding the waters of Salt River at a point about 75 miles from Phoenix with a structure called the Roosevelt Dam. The project contemplated the distribution of water for irrigation of about 200,000 acres of land near Phoenix and for supplying electric

³ 210 Fed. 44, November 19, 1913.

light and power to the inhabitants of the same territory. The Reclamation Service found the predecessor of the present company in possession of certain water rights and a plant with which it was supplying electricity to the inhabitants of Phoenix. The plant cost originally \$189,000, and in these proceedings it is designated as the Desert Plant. When the government came to establish its project on Salt River, it was deemed necessary to acquire this Desert Plant, together with the water rights of the complainant's predecessor, and negotiations were accordingly opened with the company with that object in view. The negotiations resulted in a contract under which the Desert Plant, together with the water rights, were secured, and in consideration thereof the Reclamation Service agreed to deliver to the company electricity at the rate of $1\frac{1}{2}$ cents per kilowatt hour for the term of ten years. This contract was submitted to the Secretary of the Interior and the Attorney-General of the United States, at Washington, and was approved by them and agreed to by all parties in interest. The acting Attorney-General in his letter of approval has this to say about this contract:

"As recited in the contract itself, and as shown by the records of this Department, the Pacific Gas and Electric Company was the owner of certain water rights in canals within the physical limits of the reclamation project, and, pursuant to the policy of merging all irrigating canals in Salt River Valley in the Government reclamation project, so that when completed and paid for the water users would control all irrigation works therein, it was deemed necessary to acquire the rights of the electric company. Such an adjustment was reached through the contract in question wherein the electric company surrendered and conveyed to the United States all of its rights, and in lieu thereof the United States agreed to furnish to the company in the city of Phoenix, Ariz., a specified amount of electrical energy generated at works of the United States of the Roosevelt Reservoir. For this energy the company obligates itself to pay $1\frac{1}{2}$ cents per kilowatt hour for all power furnished and consumed, the receipts therefor being credited to the Salt River project, thereby operating to reduce the charges payable by the

landowners and irrigators therein. The contract was for a term not exceeding 10 years."

Under this contract the present corporation is receiving electricity from the Reclamation Service which it supplies to its customers; it takes the place of a plant which cost \$189,000. The contract went into effect in 1909 or 1910 and has six or seven years to run. The value of the remaining term is estimated by the complainant at the sum of \$110,000. We are of opinion that this contract has a substantial value for the company, but what that value is we do not now determine. We think the Corporation Commission should have given this contract a reasonable valuation in view of all the circumstances of the case, and that the omission to make such valuation was a substantial error in the proceedings.

§ 1453. Water-power contract—Nevada Commission.

The case of *City of Ely v. Ely Light and Power Company*⁴ involves the valuation of an electric plant for rate purposes. The Commission refused to include in its valuation an allowance for the claimed value of a water-power contract. The Commission says (at page 589):

This plant is run partly by steam and partly by water power. The latter is hired at a rental of \$300 per month, or \$3,600 a year. Respondent claims that the company should be allowed something in addition for the contractual right by which the water has been acquired. We must reject this view. The \$300 per month rental is carried into the expense account, the company given full benefit of it, and any valuation of the contract over and above the benefits that flow from the use of the water would be unjust to the consumer. When the respondent company pays \$300 per month rental for the water, in the absence of any counter showing, the presumption is that the rental is fair and reasonable; that the owner of the water is receiving a fair return, and that the water is worth the amount paid by the company. It appears from the testimony that the production of

⁴ 24 A. T. & T. Co. Com. L. 578, June 7, 1913, Nevada Public Service Commission.

electricity by the company through the agency of the water power thus acquired is considerably less expensive than when steam power is used. Such being the case, it is obvious that the company is receiving everything that it is entitled to on account of the water power used. If steam power were used exclusively, the expense to the company would be very much greater, while the service to the consumer would be no better than it is now. As the matter stands it is apparent that the use of the water in lieu of steam is a distinct and important advantage to the company, and we are wholly at a loss to see any reason why the company should be allowed something additional upon the score of the value of the contract by which the water is acquired and used. Moreover, no estimate is made of the value of such contractual right and to undertake to place a valuation upon it would be a blind guess.

In thus passing upon the issue raised concerning the water power employed, we do not undertake to determine its actual value. We simply deal with the matter as it stands upon the basis of the testimony adduced at the hearing.

§ 1454. Water power—New Hampshire Commission.

In passing on an application for a transfer of the property of the Berlin Electric Light Company ⁵ the New Hampshire Public Service Commission bases its determination chiefly on the fair value of the property for rate purposes. In this case the Commission found it impracticable to determine a separate value for water power. The Commission says (at pages 821-822):

We feel that any attempt to establish a formula for determining the value of water power would prove as difficult as the establishment of a formula for fixing by mathematical process the exact value of an entire public utility plant.

The original cost of the water power, the cost of developing the same, the cost of similar powers in substantially similar locations, the amount of actual earnings in the past, and esti-

⁵ 3 N. H. P. S. C. 174, 21 A. T. & T. Co. Com. L. 781, August 30, 1913.

mated earnings in the future, are undoubtedly all proper matters for consideration. But when a water power is an integral part of a utility property it is unnecessary and not ordinarily desirable to endeavor to fix an exact value for the same considered apart from the other portions of the property to be valued. Evidence of the character indicated should be considered, but in the end it will ordinarily be best to fix a value upon the entire property to be appraised rather than to attempt to dissect it, and fix an exact value on all its several parts.

Petitions of Grafton County Electric Light and Power Company ⁶ is a case coming before the New Hampshire Public Service Commission, and involves an authorization to purchase certain property and to issue securities therefor. Though a capitalization case, the Commission holds that in general a proper capitalization is to be determined by the same rules as used in fixing fair value for rate purposes. On account of the excessive price at which it was proposed to transfer and capitalize the properties the Commission denied the application for such transfer.

In determining the value of the water power of the company the engineers based their calculation upon a comparison of the cost of the energy produced by water with the cost of the same amount of power produced by the most economical use of coal. The Commission held that while evidence as to the value of water powers on a coal-saving basis would be given due consideration it could not be accepted as a final test of value. To adopt the policy of valuing water powers on this basis would be to leave the people of the state subject to all the disadvantages attendant on remoteness from the coal mines, while enjoying no advantage from living in a region abundantly supplied with water powers. The Commission says (at pages 542-545):

⁶ 28 A. T. & T. Co. Com. L. 533, February 3, 1914.

The water powers, developed and undeveloped, cut a large figure in the valuation claimed by the petitioners.

Mr. French at the first hearing placed their values as follows:

Lebanon privilege.....	\$13,020
Mascoma upper privilege.....	37,310
Mascoma lower privilege.....	38,500
White River privilege.....	48,180
Total.....	<u>\$137,010</u>

The petitioners' counsel, by elaborate calculations, arrives at the sum of \$80,465 as the absolute minimum that can be fixed for the value of the developed powers (excluding the White River privilege), as compared with \$88,830, the value placed upon them by Mr. French. These values are reached by the familiar process of comparing the cost of the energy produced by water with the cost of the same amount of power produced by the most economical use of coal, the difference in cost, capitalized at some rate assumed for the purpose, being taken as representing the value of the water power. It is earnestly contended that this method of valuation is compulsory in the case of a developed power showing a saving over the cost of steam power, and in the case of an undeveloped power if there are no other sufficient powers available within reasonable distance.

We can not admit that there is any compulsory method of determining the value of a water power, or of any other part of the plant of a public utility, except the method of considering all the available evidence, and, exercising the best possible judgment in giving to each fact its due weight, determining, upon all the evidence, what that power is worth in the market. Its saving to the owner over some more expensive method of power production does not measure its selling price, or value, any more than the cost-of-reproduction method determines the value of physical structures, simply because, as a matter of fact, water powers are not valued and do not sell upon that basis. And the objection of the Supreme Court to the conjectural character of the cost-of-reproduction method applied with equal force to the "saving-over-coal" method of valuing water powers. It assumes, what is not proved, that power could be

produced profitably by coal. And it assumes, what is not true, that a given amount of power produced by water, varying in amount as it will on even the best regulated streams, is equal in value to a like amount of power generated by steam, constant and reliable at all times. Water power has value, if it produces energy at a sufficient saving over coal to offset the disadvantages attendant upon its variable production. But the entire saving over coal, calculated on the total annual production of power, and capitalized, certainly far exceeds the value of the power—what one would pay for it as a substitute for a steam plant.

Another conjectural element is found in the rate of capitalization. The petitioners' counsel and engineer assume 10 per cent as a fair rate of capitalization. Figuring on this basis, Mr. French at first placed upon the undeveloped White River power a valuation of \$48,180. At a later hearing, upon further reflection, in view of the fact that it would possibly be five years before this power was used, he thought that 15 per cent would be a "fair" rate of capitalization, and reduced the valuation to \$32,000. Why 10 per cent? Why 15 per cent? Why any particular per cent? Simply because some one thinks it is fair, or because some one else, in some other case, has thought it was fair. The facility with which, on slight reflection, a valuation can be reduced one-third, or increased 50 per cent, shows in most striking form the inconclusive nature of this method of valuation. It is altogether too easy. The determination of the value of a water power is a task of the greatest difficulty. It would indeed greatly lessen our labors if it could be reduced to a simple matter of mathematics. But that can not be done.

One feature of the "saving-over-coal" method of determining the value of a water power should not escape attention. We live in a region remote from the coal fields, the cost of transportation is heavy, and the price of coal is higher than in almost any other part of the country. On the other hand, ours is a mountainous state, with many streams having a large fall and furnishing an abundance of water power, much of which is still undeveloped. If we adopt the policy of valuing water

powers in rate and capitalization cases by capitalizing their saving over coal, the people of the state are left subject to all the disadvantages attendant on remoteness from the coal mines, while enjoying no advantage from living in a region abundantly supplied with water powers. A "fair value" of a water power in New Hampshire can not be a value which takes no account of our natural resources, and makes electricity produced by water as expensive to the public as if produced by coal.

We can not, on any theory, adopt as conclusive this method of valuation, though the results reached by it will have due consideration as evidence upon the ultimate question of fair value.

The only evidence as to the actual cost of power is that about eighteen years ago \$6,000 was paid for the White River power, still undeveloped, and now valued at \$32,000 or \$48,000. It also appeared that the Lebanon power was purchased in 1906 for \$5,874, subject to the right of the owners of a machine shop to use 18 horsepower, and that this right was recently purchased by the Mascoma company at auction, together with the machine shop, several other buildings, and a considerable tract of land, for \$5,000. It is impossible, on the evidence, to tell how much was paid for the 18 horsepower, and how much for the land and buildings, but it is probable, from examination of the circulars, with photographs, advertising the sale, that the cost-of-reproduction method applied to the land and buildings would make them worth more than the whole purchase price. Of course the desire to clear the power of this encumbrance was the chief incentive to the purchase. But the transaction, under the circumstances, can not aid us in fixing the value of the powers.

And, in the view which we take of the case, it is not necessary to place any specific value upon them separately. The evidence as to their value on a coal-saving basis has been given due consideration, but can not be accepted as a final test of value.

§ 1455. Water power—Wisconsin Commission.

In *City of Rhineland v. Rhineland Lighting Com-*

pany⁷ the company held a contract for the supply of current generated by water power. The company claimed the right to include in the value of its plant for rate purposes the saving represented by the substitution of water power for steam power. The Wisconsin Commission is inclined to deny this contention. The Commission says (at page 426):

While calculations of the saving produced by the use of water power instead of steam power are of much importance in private and public undertakings in showing the financial feasibility of hydraulic construction, the title of the owners in utility business to the entire savings so produced has not been clearly demonstrated. Indeed, the respondent's claims seem to go so far as to preclude the public from any share in economical methods of service and seem to place upon users of utility service the burden of maximum costs of operation. That this principle may be followed in determination of rates that are equitable to the public and the utility appears to be very doubtful, as it results in costs that are not dependent upon reasonable efficiency, normal investments, and local advantages to which the community lends value, and sets up, as a standard and test, methods of operation which are most costly and least efficient.

§ 1456. Water-power contract—New York Commission, Second District.

*Fuhrmann v. Cataract Power and Conduit Company*⁸ is a case involving the valuation of property of an electric company for rate purposes. The company claimed that in such valuation the value of its contract for power with the Niagara Falls Power Company should be included to the extent of \$2,000,000. The facts upon which the company relied to sustain this contention were as follows:

1. That under the terms of the Locke contract it has a

⁷ 9 W. R. C. R. 406, July 11, 1912.

⁸ 3 P. S. C. 2d D. (N. Y.) 656, 18 A. T. & T. Co. Com. L. 1015, April 2, 1913.

right to have the Niagara Falls Power Company deliver to it in practical perpetuity at the city line of Buffalo each year not less than 37,500 electric horsepower.

2. That it is required to pay for each horsepower delivered to it as aforesaid only the sum of \$16 per annum.

3. That there is no other hydroelectric power available to be delivered in Buffalo at the present time and no prospect that there will be any other in the future; that by reason of this fact it has a practical monopoly of hydroelectric power in that city

4. That the minimum cost of steam-generated electric power in Buffalo at the switchboard is \$25 per horsepower per annum.

5. That the company can sell this power at \$25 in competition with steam-generated power, and hence in so selling it there is a clear profit of \$9 per horsepower.

6. That this profit of \$9 per horsepower computed upon the total amount to which it is entitled, 37,500 horsepower, gives an annual profit of \$337,500.

7. That \$337,500 annual profit capitalized at 8 per cent amounts to \$4,218,750

The company conceded, however, that it would be fair to divide the advantages of hydraulic-generated electric power between the public and the company, and therefore made a claim for an allowance of but \$2,000,000 as the value of its contract instead of \$4,218,750 claimed as the capitalized value of hydraulic-generated electric power over steam-generated power. The Public Service Commission for the Second District held that this contract had no value that should be considered in fixing fair value for rate purposes. Chairman Stevens in delivering the opinion of the Commission discusses this question as follows (at pages 668, 670-671):

It is a conceded fact that Niagara-generated power is cheaper

than steam-generated power. There is a great saving; and the question is, who gets the benefit from the saving? This question was propounded directly to the principal witness for the respondent, and his answer was:

"My conclusion is that it is fair to all parties to divide the advantages of hydraulic-generated electric power between the public and the people whose enterprise makes the utility of the hydraulic power by this process."

This conclusion seems to be concurred in by the respondent; and therefore, instead of insisting upon a return upon the sum of \$4,000,000 and upward, which is logically, upon its contention, the value of the contract, it contents itself with placing the value of the contract at \$2,000,000. When it concedes that there should be any reduction in the selling price because it is fair and reasonable, it yields the point that it has a vested right to the entire difference in cost. It concedes that what is fair and reasonable is the principle by which the selling price must be determined, and not because it has any property right to the difference. It concedes that under all of the circumstances of the case it is fair and reasonable that the saving, as it terms it, should be divided between the public and itself. . . .

No generating company using the waters of Niagara River owns those waters or has any right or title to them whatsoever. By the permission of the Federal Government and of the State of New York, the generating companies operating at the Falls are given the free use of those waters in the production of electric energy. To say that by having been given the free use of those waters for that purpose they are vested with an unassailable right to charge as much for the electric energy developed as they would for energy developed by steam plant is a proposition which requires to be maintained rather than to be refuted. It may very well be that these companies are entitled, in view of all the circumstances of the case, to a liberal return upon the capital actually invested in developing the energy. It may very well be that the people exploiting the enterprise are entitled to large, and even very large, profits for the skill they have displayed and the risk to which they have subjected their capital. It may be that the public ought to pay them very liberally for

the work which they have carried on in the public interest; but to say that the public is entitled to no advantage from the use of these waters, that the territory which can be served with electric energy developed at Niagara Falls has no advantage, and is entitled to no benefit by reason of proximity to those Falls, is to say something which does not appeal to the best judgment of mankind for an instant.

We may therefore dismiss without further consideration the claim of the company that its contract with the Niagara Falls Power Company has a value of \$2,000,000 upon which it is entitled as a matter of right to a return of not less than 6 per cent per annum; and the question of what return it is entitled to, if any, in excess of the cost of steam-generated electric energy is one which may be considered in another connection.

§ 1457. Rental of transmitters and receivers—California Commission.

San José v. The Pacific Telephone and Telegraph Company ⁹ involves the valuation of a telephone plant for rate purposes by the California Railroad Commission. In estimating operating expenses the Commission reduced the company's percentage payment on gross revenue to the American Telephone and Telegraph Company from 4.5 per cent to 2.5 per cent. The Commission held that this charge must be limited to the actual value of the service rendered by the parent company. Commissioner Eshleman says (at pages 387-388):

For the exchange here in question there was paid \$10,121.89 to the American Telephone and Telegraph Company during the year last past, this being at the rate of 4.5 per cent of the gross revenue. From the investigation made by the auditor of this Commission and submitted in evidence the only service rendered during this year for the exchange in question was the use of exchange station instruments numbering 1468, which are

⁹ 3 Cal. R. C. —, 24 A. T. & T. Co. Com. L. 370, October 9, 1913, California Railroad Commission.

valued by the companies themselves at \$2.92 each, which would represent a total valuation of \$21,806.56. The American Telephone and Telegraph Company contends for a rental value of 24 per cent, which includes depreciation, repairs, up-keep, interest, etc. This would allow this company \$5233.57, assuming this 24 per cent earning not to be excessive, which I am not prepared to admit, which would mean a reduction of \$4888.32 on the 24 per cent basis of earning, and I believe if anything this exceeds the maximum which this company should be allowed to impose as a charge upon its patrons in San José, and in passing from this branch of the inquiry I can not refrain from saying that while my inclination is always to impute proper motives to persons and corporations, still these intercorporate relationships with their attendant possibilities for fraud never have appealed to me, and I would most respectfully suggest to the utilities involved that open, fair, arms-length dealings would be better not only for the public but for the utility in the end.

§ 1458. Rental of transmitters and receivers—Oklahoma Commission.

In *Bolen v. Pioneer Telephone and Telegraph Company*¹⁰ the Corporation Commission of Oklahoma values a telephone plant in the city of Ada for rate purposes. Over ninety-nine per cent of the capital stock of the company was owned by the American Telephone and Telegraph Company. The company paid to the American Telephone and Telegraph Company a rental on exchange and toll instruments of approximately 4½ per cent of its gross revenues. This payment was assumed to cover also expert advice and assistance received from the parent company. The Commission determined that the value of such expert advice and assistance was theoretical rather than actual, and that as a rental for transmitters and receivers the charge was obviously exorbitant. Instead of including this rental in operating expenses the Commission merely al-

¹⁰ Order No. 770, December 4, 1913, Oklahoma Corporation Commission.

lowed in fair value an estimate of the cost of transmitters and receivers used.

§ 1459. Contract with General Electric Company—New York Commission, Second District.

*Fuhrmann v. Buffalo General Electric Company*¹¹ involves the valuation of an electric plant for rate purposes. In this case the Commission refused to include an allowance for the contract or license that the company had obtained in 1892 from the General Electric Company. \$700,000 par value of securities had been issued for its contract and though it was admitted that the contract is now practically valueless, yet it was contended that this amount should at least be considered under the heading "superseded property" and should be taken into account in arriving at the cost of the company in establishing the business. The Commission was not convinced that the contract had ever been of great value to the company and did not include this item in the fair value of the property.

§ 1460. Patent rights—Wisconsin Commission.

The case of *City of Milwaukee v. The Milwaukee Electric Railway and Light Company*¹² involves the valuation of a street railway for rate purposes. The Commission issued an order slightly reducing the existing rates of charge. In estimating the cost value of the property of the company in 1897, thirteen years prior to the proceedings in this case, the Commission refused to include the value of certain patent rights. The Commission says (at page 92):

In this connection something should also be said about the value of certain patent rights which the respondent claimed to

¹¹ 3 P. S. C. 2d D. (N. Y.) 739, 18 A. T. & T. Co. Com. L. 1094, April 2, 1913.

¹² 11 W. R. C. R. 1, 14 A. T. & T. Co. Com. L. 197, August 23, 1912.

have, and the value of which was estimated at \$200,000 in the Clark appraisal. Such rights may, undoubtedly, have values; but it would hardly seem that such values can properly be considered as permanent capital charges. Rights of this kind are, as a rule, secured because they are profitable or because, in one way or another, they tend to increase the net earnings. The prices paid for such rights would seem to be operating expenses rather than capital charges. If regarded as capital charges at all, they should be written off during the life of these rights from the profits for which they are responsible. In this case the facts presented in relation to these rights are rather indefinite and this, in addition to what has just been said, makes it difficult to say just how much importance, if any, should be given to them in the appraisal.

§ 1461. Savings effected by joint operation—Arizona Commission.

*Huffman v. Tucson Gas, Electric Light and Power Company*¹³ involves the valuation of a gas and electric plant for rate purposes by the Arizona Corporation Commission. In its estimate of operating expenses the Commission refused to recognize the company's claim that the savings made possible by its consolidation and joint operation of the gas, electric lighting and railway service should accrue to it instead of resulting in a reduction of rates. The company claimed an annual saving made possible by such joint operation of \$19,736. In regard to this claim the Commission says (at pages 750-751):

We have reviewed the claims of the respondent that the benefit accruing from such joint operation should revert to the respondent instead of resulting in a reduction in service charges, and it is our opinion that no allowance should be made for such claims.

¹³ 21 A. T. & T. Co. Com. L. 725, July 9, 1913, Arizona Corporation Commission.

§ 1462. Water rights—United States Supreme Court.

San Joaquin and Kings River Canal and Irrigation Company *v.* County of Stanislaus ¹⁴ involves the valuation of the property of an irrigation company for rate purposes. The decree of the Circuit Court dismissing an application for injunction (191 Fed. 875) is reversed by the Supreme Court on the ground that in determining the fair value of the property no allowance was made for the water rights owned by the Company. Justice Holmes in delivering the opinion of the court says:

It is not disputed that the plaintiff has a right as against riparian proprietors to withdraw the water that it distributes through its canals. Whether the right was paid for, as the plaintiff says, or not, it has been confirmed by prescription and is now beyond attack. It is not disputed either that if the plaintiff were the owner of riparian lands to which its water was distributed it would have a property in the water that could not be taken without compensation. But it is said that as the plaintiff appropriates this water to distribution and sale it thereby dedicates it to public use under California law and so loses its private right in the same. It appears to us that when the cases cited for this proposition are pressed to the conclusion reached in the present case they are misapplied. No doubt it is true that such an appropriation and use of the water entitles those within reach of it to demand the use of a reasonable share on payment. It well may be true that if the waters were taken for a superior use by eminent domain those whose lands were irrigated would be compensated for the loss. But even if the rate paid is not to be determined as upon a purchase of water from the plaintiff, still, at the lowest, the plaintiff has the sole right to furnish this water, the owner of the irrigated lands can not get it except through the plaintiff's help, and it would be unjust not to take that fact into account in fixing the rates. We are not called upon to decide what the rate shall be, or even

¹⁴ San Joaquin and Kings River Canal and Irrigation Co. *v.* County of Stanislaus, April 27, 1914, United States Supreme Court.

the principle by which it shall be measured. But it is proper to add a few words.

The declaration in the Constitution of 1879 that water appropriated for sale is appropriated to a public use must be taken according to its subject-matter. The use is not by the public at large, like that of the ocean for sailing, but by certain individuals for their private benefit respectively. *Thayer v. California Development Co.*, 164 Cal. 117, 128; *Fallbrook Irrigation District v. Bradley*, 164 U. S. 112, 161. The declaration therefore does not necessarily mean more than that the few within reach of the supply may demand it for a reasonable price. The roadbed of a railroad is devoted to a public use in a stricter sense, yet the title of the railroad remains, and the use, though it may be demanded, must be paid for. In this case it is said that a part of the water was appropriated before the Constitution went into effect, and that a suit now is pending to condemn more as against a riparian proprietor, for which of course the plaintiff must pay. It seems unreasonable to suppose that the Constitution meant that if a party instead of using the water on his own land, as he may, sees fit to distribute it to others he loses the rights that he has bought or lawfully acquired. Recurring to the fact that in every instance only a few specified individuals get the right to a supply, and that it clearly appears from the latest statement of the Supreme Court of California, *Palmer v. Railroad Commission*, January 20, 1914, that the water when appropriated is private property, it is unreasonable to suppose that the constitutional declaration meant to compel a gift from the former owners to the users and that in dealing with water "appropriated for sale" it meant that there should be nothing to sell. See *San Diego Water Co. v. San Diego*, 118 Cal. 556, 567; *Fresno Canal & Irrigation Co. v. Park*, 129 Cal. 437, 443, et seq.; *Stanislaus Water Company v. Bachman*, 152 Cal. 716; *Leavitt v. Lassen Irrigation Co.*, 157 Cal. 82.

INDEX

A

Abstracts:	PAGE
reproduction cost, right of way	133
Accounting:	
capital value and rate and purchase value	16-17
valuation for	1
Accounts, uniform:	
depreciation rule	351-353
discount on bonds	269-271
promotion expenses	566
renewals provided for under maintenance	414
reserve fund	382-383
<i>see also</i> MAINTENANCE ACCOUNTS	
Accrued depreciation:	
<i>see</i> REPRODUCTION-COST-NEW V. COST-LESS-DEPRECIATION	
Actual cost:	
Ames v. Union Pacific Railway	89
appreciation in land value	103-126
basis for fair value	378
Berlin electric light case	920-923
bond discount	275, 277, 284, 285, 286, 916-918, 919-920
California Railroad Commission	916-919
California Supreme Court	89-93
Connecticut Public Utilities Commission	101
considered	47
contract cost only allowed in telephone rate case	918-919
contractor's profit	248, 249-251, 252
cost of service theory	569-570
definition	82-83, 834, 835
depreciation	331
determination of	5
difficulties of determination	83-84, 929-931
difficulties overestimated	85-87
discussed by James E. Allison	928-929
element in determining depreciation	347
element in fair value for rate purposes	Chap. V, 916-934
elements of fair value	25-26
extent to which cost changes offset each other	88-89
fluctuations in cost	87-89
functional depreciation	390
going concern value	544, 560
Grafton County electric light, etc., case	923-924
interest during construction	258
Interstate Commerce Commission	97-101
Louisville telephone rate case	84-85

Actual cost—Continued	PAGE
mains and services.....	148-149
market value <i>v.</i> cost as measure of going concern value.....	560-561
Minnesota Supreme Court.....	933-934
money properly invested.....	924
natural standard.....	83
New Hampshire Public Service Commission.....	919-924
New York and North Shore Traction bond issue.....	932-933
New York Public Service Commission, 1st District..	96-97, 932-933
New York Public Service Commission, 2d District.....	929-931
not controlling.....	26-27, 28, 29, 32, 33, 34, 36, 62-63
original investment, valuation case.....	923-924
overhead charges.....	266
Pennsylvania state courts.....	93-94
piecemeal construction.....	308-309
plus appreciation in land value.....	23-24
plus land value, telephone rate case.....	925-928
present value determined by, appraisals for condemnation....	715, 718
present value the true basis.....	22-23
purchase price at foreclosure sale.....	923-924
railroad valuation bill.....	853-854
railway terminal valuation.....	140
rate of return.....	709
St. Louis Public Service Commission.....	924-928
San Diego County water rate case.....	916-918
San José telephone rate case.....	918-919
should be considered.....	20-21
standard of value for rate purposes....	Chap. V, 82-101, 40, 175, 442
used to test reproduction estimate.....	911-912
valuation for rate purposes.....	46
versus reproduction cost as measure of going concern value..	561-562
Washington valuation statute.....	46
West Virginia Supreme Court.....	94-95
Wisconsin Railroad Commission.....	95-96
<i>see also</i> ESTABLISHED BUSINESS, COST OF	

Actual value:	
discarded property.....	190

Adams, Henry C.:	
appraisal of franchise value.....	631-633
depreciation is fundamentally a question of values.....	1139

Adaptation.....	Chap. XVI, 310-328
definition.....	310-311
included in contingency allowance.....	327
Michigan railroad appraisal.....	312, 313-314
Minnesota railroad appraisal.....	310-311, 326
Minnesota railroad rate case.....	319-320
New York Public Service Commission, 1st District.....	322-325
Oklahoma railroad rate case.....	318
overhead charges.....	267
physical and commercial.....	318
South Dakota railroad appraisal.....	314
South Dakota railroad rate case.....	1108-1109
Texas railroad rate cases.....	317-318

Adaptation—Continued	PAGE
Wisconsin railroad appraisal	312
<i>see also</i> SEASONING; SOLIDIFICATION	
Adequate investment:	
plant capacity reached	1021-1022
Adjustment of parts:	
<i>see</i> ADAPTATION	
Administration expenses:	
depreciation of overhead charges	356
Massachusetts Validation Board	224
New York Public Service Commission, 1st District	231, 232
Alabama railroad rate cases:	
annual depreciation allowance	1204-1205
appreciation in land value	939-940
franchise value	625-626
rate of return	1326-1327
solidification	325-326
tax assessment of franchises included in fair value	1298-1302
Allison, James E.:	
depreciation reserve and normal depreciation	1122-1123
elements in public service valuation	928-929
Aivord, John W.:	
cost under present or original conditions	79
going concern as created income	500-502, 506, 509-510
Amortization:	
bond discount	269-271, 1085
development expenses	239-240
emergency electricity plant	1011-1012
intangible property	270
normal permanent depreciation	358-359
past losses	390-391
promotion expenses	269-270
unamortized depreciation	361
Antiquated pattern:	
cost of reproduction	71
Appraisal methods:	
franchise value	629-639
land value	144-147
Maine condemnation cases	Chap. XXXII, 713-720
Appreciation:	
earthworks, solidification	321
fair value generally includes	31
overhead charges	243
rules for appraisers, Maine condemnation cases	717
value for rate purposes	37
<i>see also</i> PAVEMENT OVER MAINS; SOLIDIFICATION	
Appreciation in land value:	
Alabama railroad rate cases	939-940
annual increase not income	945-946

Appreciation in land value—Continued	PAGE
Arizona Corporation Commission.....	941
Berlin electric light case.....	944-945
Chicago telephone appraisal.....	943-945
considered in fixing rate of return.....	936-938
distinguished from appreciation of mains.....	158
franchise value.....	638
going value.....	531
Interstate Commerce Commission.....	97-101
Kansas City stock-yards case.....	23-24
Kings County lighting case.....	945-946
land acquired in advance of present need.....	195-198
Puget Sound Electric Railway.....	46-48
road-bed.....	319-320
terminal land.....	140-141
treated as income.....	936-938
unearned increment.....	59, 89, 108, 140-141

Arizona Corporation Commission:	
accrued depreciation.....	1147-1148
annual depreciation allowance.....	1188-1189
appliances loaned to consumers.....	990
excessive investment, gas and electricity plant.....	1013
going concern in gas and electricity cases.....	1223-1225
land included at its appreciated value.....	941
overhead charges, gas and electricity cases.....	1033-1035
rate of return, Phoenix and Tucson cases.....	1328-1329
savings effected by joint operation.....	1368
superseded property.....	1178
water-power contract.....	1354-1356
working capital.....	1092-1093

Arkansas:	
railroad rate cases.....	13-14, 63-65

Arkansas Supreme Court:	
electricity rate case, rate of return.....	683-684
telephone rate case, annual depreciation allowance.....	436-437

Arnold, Bion J.:	
amortization of bond discount.....	1085
appraisal of Chicago surface railways.....	213-215
appraisal of Kansas City street railways.....	857-860, 1083-1085
depreciation of overhead charges.....	1117
franchise value appraisal.....	1316-1317
percentages added to inventory-cost.....	1043-1045
physical depreciation.....	348-351
unit costs defined.....	1023-1024

Assessed valuation:	
see TAXATION	

Assessment methods:	
see APPRAISAL METHODS	

Average price:	
see UNIT PRICES	

B

- Baker, John Earl:** PAGE
 reproduction cost of terminal land.....138-141
- Baldwin, Judge:**
 franchise value in purchase cases.....582-583
 going concern in public purchase.....454-456
- Bank balance:**
 allowance for.....290
- Bartlett, Judge Willard:**
 annual depreciation allowance.....417
- Beginning of operation:**
see ADAPTATION; EXPERIMENTAL OPERATION
- Bell, A. T.:**
 Memphis water plant appraisal.....226-227
- Bemis, Edward W.:**
 accrued depreciation.....1148-1150
 annual depreciation allowance.....1182-1184
 appraisal of franchise value.....629-630
 appreciation in land.....943-944
 going concern in rate cases.....1228-1229
 overhead charges, Chicago telephone appraisal.....1037-1038
 rate of return.....677, 1331-1334
 working capital.....299, 1093-1094
- Betterments from earnings**.....Chap. IX, 176-189
 American Telephone and Telegraph Company.....187-189
 Fall River capitalization case.....999-1002
 Haverhill gas rate case.....997-999
 Interstate Commerce Commission.....97-101, 182-186
 Maine water plant condemnation case.....181-182
 Massachusetts Supreme Court.....999-1002
 New Hampshire Public Service Commission, railroad rates.1002-1004
 New York Public Service Commission, 1st District.....186-187
 Pennsylvania Supreme Court.....180-181
 rate of return adequate to construct.....184-189
 valuation of.....176-180
- Bibliography of valuation and depreciation**.....Chap. XXXII, 721-745
- Blackmar, Judge:**
 annual depreciation allowance.....420-421
 appraisal of franchise value.....637-639
- Board of Railway Commissioners of Canada:**
 annual depreciation allowance, telephone case.....1191-1192
- Bond discount:**
see DISCOUNT ON BONDS
- Bonds:**
see CAPITALIZATION
- Bonds, well-secured:**
 definition.....278
- Book value:**
 definition.....834, 835
 relation to rate and purchase value.....16-17
 valuation of mains and services.....148

Boston:	PAGE
grade separation contributions.....	167
sliding scale method of regulating rates.....	711
Brewer, Justice:	
actual cost standard of value for rate purposes.....	89
fair value for rate purposes.....	19-21
franchise value in purchase cases.....	575-578
going concern in public purchase.....	441-444, 445, 446-448
market value the true standard.....	58
rate of return.....	650
value of the particular service governing factor.....	842-848
Bridges:	
franchise value in condemnation case.....	572-573
public purchase.....	2
Brokerage:	
Chicago street railway appraisal.....	214, 216
Cleveland street railway appraisal.....	220
definition.....	268, 278
included in overhead charges.....	210
Massachusetts Validation Board.....	224, 225, 226, 261
Michigan Railroad Commission.....	1085-1086
Railway and Canal Commission of Great Britain.....	1076-1083
Seattle telephone rate case.....	237
<i>see also</i> DISCOUNT ON BONDS	
Bryan, William H.:	
identical reproduction of existing plant.....	72
Buildings:	
cost of removal.....	79
depreciation.....	333-334
hypothetical, reproduction cost affected by cost of.....	141-143
overhead charges.....	219
Burns, Clinton S.:	
going concern as created income.....	506-507, 510
pavement over mains.....	154-155

C

California Railroad Commission:	
accrued depreciation.....	1148
actual cost of land, not appreciated value, basis for rates....	941-943
actual cost the basis in water and telephone rate cases.....	916-919
annual depreciation allowance.....	1186, 1189-1191
contract for rental of telephone instruments.....	1365-1366
cost of repaving excluded, gas rate case.....	973
donated railroad land.....	991-992
emergency electricity plant.....	1011-1012
fair value may be less than market value.....	961-963
functional depreciation.....	1178-1179
going concern in gas rate case.....	1225-1227
no general findings of value made.....	800-804
overhead charges.....	1035-1037
pavement over mains considered.....	973-975
rate of return, Palo Alto gas case.....	1329-1330
rate of return, Wells, Fargo & Co. express case.....	1330-1331

California Railroad Commission—Continued

PAGE

reproduction cost, method of determining.....	960-961
solidification of road-bed.....	1109-1110
water and irrigation contracts with consumers.....	1352-1353

California Supreme Court:

actual cost, San Diego water rate case.....	89-93, 880-881
annual depreciation allowance, San Diego water rate case....	437-438
going concern, Oakland water rate case.....	489-490
market value, San Diego water rate case.....	58-59
property donated, San Diego water rate case.....	163
rate of return, Oakland water rate case.....	691-693
rate of return, San Diego water rate case.....	651

Canada Board of Railway Commissioners:

provision for future expansion, telephone plant.....	1014-1015
rate of return, Montreal telephone case.....	1331

Canty, Judge:

property donated, railroad land.....	163
rate of return.....	652-653
Steenerson railroad rate case.....	67-68, 884-885

Capitalization:

annual depreciation allowance.....	426-427
appraisal of franchise value.....	636, 639
basis for.....	813-814
brokerage.....	1085-1086
discount on securities not a proper charge to capital.....	273
elements of fair value.....	25-26
fair value based on.....	442
fictitious.....	24-25
franchises.....	168, 614-615
franchise value in purchase cases.....	1293-1295
going concern value theory.....	569-570
grade separation contributions.....	169
New York gas companies.....	610
not controlling.....	26-27, 33-34, 36, 43
overcapitalization.....	323, 324, 885-887
overhead charges.....	223-226, 248-251, 261, 266
past losses, rejected.....	534-540, 549-550
patent rights.....	1367-1368
physical valuation as basis for.....	6
property constructed out of surplus.....	180
rate of return.....	568, 650, 654
relation to rate and purchase value.....	16-17
securities issued for construction.....	875-876
should be considered.....	20-21
theories of value.....	809-814
treatment in connection with bond discount.....	271-273
valuation for.....	1
valuation for rate purposes.....	17, 46
working capital.....	288-289
see also CONTRACT; DISCOUNT ON BONDS; OVERCAPITALIZATION	

Capitalization of income:

appraisals for condemnation.....	717
----------------------------------	-----

Carland, Judge:	PAGE
functional depreciation.....	1171-1172
Cars:	
overhead charges.....	219
present worth method of measuring depreciation.....	338
Casualties:	
definition.....	350-351
functional depreciation.....	400
Wisconsin Railroad Commission.....	238
Cedar Rapids, Iowa:	
gas rate case:	
annual depreciation allowance.....	428-429, 438-439
franchise value.....	627
going concern.....	475-477
overhead charges.....	212, 253, 262
payment over mains.....	150-151
rate of return.....	673-674
water case:	
annual depreciation allowance.....	438
going concern.....	468
rate of return.....	654-655
Charges:	
<i>see</i> OVERHEAD CHARGES	
Chicago:	
Commonwealth Edison appraisal.....	1094-1096
electric light appraisal case:	
franchise value.....	1302-1304
going concern.....	1229-1231
overhead charges.....	1038-1039
gas rate case:	
annual depreciation allowance.....	429-430
cost-new <i>v.</i> cost-less-depreciation.....	365-366
franchise value.....	618-620
overhead charges.....	217-218
rate of return.....	675-677
working capital.....	298-299
street railway appraisal:	
contractor's profit.....	247
depreciation of overhead charges.....	354
overhead charges.....	213-217
pavement.....	172-173
street railway assessment case.....	424, 639
street railway settlements, bond discount.....	274-275
telephone appraisal case:	
accrued depreciation.....	1148-1150
diversion of depreciation reserve.....	1182-1184
going concern.....	1228-1229
overhead charges.....	1037-1038
rate of return.....	1331-1334
working capital.....	1093-1094
Clark, Circuit Judge:	
accrued depreciation.....	1161-1163
annual increase in land not income.....	946

Clark, Circuit Judge—Continued	PAGE
approves reproduction cost, pavement over gas mains.....	981
cost-new <i>v.</i> cost-less-depreciation.....	374-375
going concern, gas rate case.....	1254
Cleveland, Ohio, street railway settlement:	
appraisal of franchise value.....	629-631
bond discount.....	274
going concern.....	477-478
overhead charges.....	218-220
pavement.....	173-174
Columbus, Ohio, electricity rate case:	
annual depreciation allowance.....	427-428
bond discount.....	284-285
cost-new <i>v.</i> cost-less-depreciation.....	368-369
cost of reproduction.....	75
fair value for rate purposes.....	30-31
franchise value.....	593-594
going concern.....	468-470
overhead charges.....	220-221
rate of return.....	659-660, 690-691
Commercial value:	
see MARKET VALUE	
Commissions, regulatory:	
see MOODY, JUSTICE	
Competition:	
Columbus electricity rate case.....	75
franchise value.....	574-575, 591, 631
effect on railroad rates.....	183
good will value.....	555-556, 557-558
losses due to, Wisconsin Railroad Commission rule.....	541-542
rate of return.....	676, 705
regulation of rates takes place of.....	158
relation to market value theory.....	51-52
Condemnation:	
see FRANCHISE VALUE, PURCHASE CASES; GOING CONCERN, PUBLIC PURCHASE; PUBLIC PURCHASE	
Condemnation proceedings:	
reproduction cost, right of way.....	133-134
Connecticut Public Utilities Commission:	
reproduction cost the standard of value for rate purposes.....	101
Connecticut Supreme Court:	
franchise value in purchase cases.....	582-583
going concern in purchase cases.....	454-456
Connette, E. G.:	
overhead charges.....	250-251
physical depreciation.....	347-348
Consolidated Gas Case:	
see Table of Cases under Consolidated Gas Company and under Willcox	

Construction cost:	PAGE
adaptation and solidification	327
bond discount	284, 285
contingencies	246
interest during construction	253
overhead charges	242
property donated	162
working capital	297
<i>see also</i> PIECEMEAL CONSTRUCTION	
Construction period:	
average price for period equal to	206-207
Contingencies:	
adaptation and solidification included in	327
Chicago gas plant appraisal	218
Chicago street railway appraisal	214
Cleveland street railway appraisal	220
depreciation of overhead charges	355
Des Moines water rate case	222
franchise value allowance	637
included in overhead charges	210, 240-246
Lincoln, Nebr., gas rate case	223
Massachusetts Validation Board	225, 243-244
Memphis water plant appraisal	227
Michigan railroad appraisal	227, 241-243
Minnesota railroad appraisal	228
New York Public Service Commission, 1st District	231, 232
Oklahoma telephone rate case	232, 245
Railway and Canal Commission of Great Britain	1069-1070
St. Louis Public Service Commission	244-245
Seattle telephone rate case	237
South Dakota railroad appraisal	233
Washington Railroad Commission	234, 235
Wisconsin railroad appraisal	237
Wisconsin Railroad Commission	238, 246
Continuous construction:	
cost compared with piecemeal construction	304-305
Contract:	
valuation of, excluded	623-625
Contractor's profit:	
Chicago surface railway appraisal	247
depreciation of overhead charges	355
Des Moines water rate case	222
Falmouth, Mass., water plant	251-252
included in overhead charges	210, 246-252
included in unit prices	246-247
Massachusetts Validation Board	224
New Hampshire Public Service Commission	1072-1073
New York Public Service Commission, 1st District	231, 232, 248-251
Railway and Canal Commission of Great Britain	1071-1072
St. Louis Public Service Commission	247-248
subcontractor	248
Contracts, water power, and patent rights	Chap. XXXIII, 1350-1370
Berlin electric light case	1357-1358
Ely electric light case	1356-1357

Contracts, etc.—Continued	PAGE
Grafton County electricity case.....	1358-1361
license by General Electric Company.....	1367
municipal lighting contract.....	1350-1352
patent rights not capitalizable.....	1367-1368
rental of telephone instruments.....	1365-1366, 1366-1367
saving effected by joint operation.....	1368
saving of water power over steam power.....	1361-1362
Stanislaus County water rate case.....	1369-1371
United States Supreme Court, water rights case.....	1369-1370
valuation of contract for water-generated electricity.....	1362-1365
water-generated electricity, Arizona case.....	1354-1356
Contributions:	
<i>see</i> GRADE SEPARATION CONTRIBUTIONS; PROPERTY DONATED	
Cooley, Mortimer E.:	
appraisal of Chicago surface railways.....	213-215
overhead charges.....	227
Corey, C. L.:	
equally efficient plant.....	76-77
going concern in gas rate case.....	1226
pavement over mains.....	154
services furnished by consumer.....	167
working capital.....	287-288
Corporation income tax:	
assessment.....	409
Cost:	
compared with value.....	5, 857
<i>see also</i> ACTUAL COST; CONSTRUCTION COST; PRESENT COST; PRO- MOTION EXPENSES; REPRODUCTION COST	
Cost of production:	
how based.....	800
Cost of reproduction:	
<i>see</i> REPRODUCTION COST	
Cost of service:	
<i>see</i> ACTUAL COST	
Created income value:	
definition.....	500
<i>see also</i> GOING CONCERN AS CREATED INCOME	

D

Deferred maintenance:	
definition.....	350
Definitions:	
accrued depreciation.....	1138
actual cost.....	82-83, 835
adaptation.....	310-311
appraisal.....	41
bond discount.....	275
bonds, well-secured.....	278
book cost.....	834, 835

Definitions—Continued

	PAGE
brokerage.....	268, 278
casualties.....	350-351
cost-less-depreciation.....	1124
cost of reproduction.....	71, 72-73, 77
created income value.....	500
deferred maintenance.....	350
depreciation.....	330-331, 1123, 1139
expense of depreciation.....	1140
exchange value.....	799-800
fair value.....	50-51, 57
franchise.....	461, 617
functional depreciation.....	330, 381
going concern.....	501, 502, 510, 514, 558-559
good will.....	457, 470, 472, 554-555
inadequacy.....	349
inventory cost.....	211
investment value.....	42
net earnings rule.....	336
normal value.....	799-800
normal wear.....	350
obsolescence.....	349
operating efficiency.....	332
original book cost.....	803
original service value.....	349
overhead charges.....	210
physical depreciation.....	330
present value.....	332, 351, 803-804
reasonable compensation.....	821
reasonable rate.....	821
repairs.....	413
reproduction value.....	803
sales method.....	144
scrap value.....	332, 349
service value.....	95, 351
solidification.....	311
special franchise.....	635
supersession.....	381-382
utility value.....	332
value in rate cases.....	567
value in use.....	799
wearing value.....	332
working capital.....	295, 1124
Depreciation.....	Chap. XVII, 328-356, 1112-1117
actual decline in utility value as basis.....	342
actual inspection method of measuring.....	341-342
allowance for, in valuation.....	6, 32-34
annual allowance for.....	331
bibliography.....	735-745
casualties, definition.....	350-351
Commonwealth Edison rate case, Chicago.....	1116
definitions.....	330-331, 1123, 1139
deferred maintenance, definition.....	350
dependent on purpose of valuation.....	330-331
New Hampshire Public Service Commission.....	1116-1117
New York Public Service Commission, 2d District.....	1115

Depreciation—Continued

	PAGE
normal wear, definition.....	350
original service value, definition.....	349
overhead charges.....	353-356, 1116-1117
physical compared with functional.....	330
physical deterioration as basis.....	332
present value, definition.....	351
present worth method applied to a class.....	339-340
present worth method applied to system as a whole.....	340-341
present worth method of measuring.....	338-341
Railway and Canal Commission of Great Britain.....	1110-1115
remaining service value, definition.....	351
scrap value, definition.....	349
sinking fund method of measuring.....	334-338, 342, 346-348, 352
cost-new <i>v.</i> cost-less-depreciation.....	369-371
New York Public Service Commission, 1st District.....	346-348
unequalized expenditures.....	361
solidification of road-bed.....	315
straight-line method of measuring.....	332-334, 335, 342, 346-351
straight-line <i>v.</i> sinking-fund method.....	1112-1115
Toronto street railway valuation.....	1117
uniform investment cost method of measuring.....	343-346
uniform water supply accounts.....	351-353
value for rate purposes.....	36, 37, 39
<i>see also</i> REPRODUCTION-COST-LESS-DEPRECIATION	
Depreciation, annual allowance.....	Chap. XX, 401-439, 1182-1205
accrued depreciation.....	406-409, 412-413
Ada telephone rate case.....	1200-1202
Alabama railroad rate cases.....	1187-1188, 1204-1205
allowance to cover only current replacement inadequate.....	433-434
amortization under limited-term franchise.....	1198-1200
appreciation set off against.....	119-120, 319-320
Arkansas electricity rate case.....	436-437
Beatrice telephone rate case.....	1195
Buffalo gas rate case.....	1198
Buffalo electricity rate case.....	1198-1200
Cedar Rapids gas rate case.....	428-429
Chicago gas rate case.....	429-430
Chicago street railway assessment case.....	424
Chicago telephone appraisal.....	1182-1184
Columbus electricity rate case.....	427-428
Commonwealth Edison case, Chicago.....	1192
corporation income tax.....	409
cost accounting as basis.....	343-346
decisions affecting.....	1189-1205
Des Moines water rate case.....	428
diversion of depreciation reserve.....	1182-1184
Ely electricity rate case.....	1196-1197
entire initial capital not permanently needed.....	358-359
franchise tax cases.....	415-423, 424-426
functional depreciation.....	403, 415, 419-423
Georgia Railroad Commission.....	427
going value, Wisconsin rule.....	531-533
Grafton telephone rate case.....	1195
Havre de Grace electricity case, sinking-fund method.....	1192-1193
interest on depreciation reserve.....	1187

Depreciation, annual allowance—Continued

	PAGE
investment of depreciation reserve.....	1185-1186
Iowa Supreme Court.....	438-439
irrigation rate case.....	430-431, 439
Lexington telephone rate case.....	1195
Lincoln telephone rate case.....	1185-1186, 1193-1196
Louisville telephone rate case.....	415, 434-435
maintenance accounts.....	410, 413
maintenance accounts include certain renewals.....	403-406
Massachusetts statute for municipal lighting plants.....	423-424
Massachusetts telephone appraisal.....	431-433
Milwaukee street railway rate case.....	1202-1203
Missouri telephone rate case.....	435-436
Montreal telephone rate case.....	1191-1192
net income determined by deducting depreciation.....	415-417
New York Public Service Commission, 1st District..	406-407, 413-415, 426-427
New York street railway tax case.....	424-426
Oklahoma telephone rate case.....	433-434
pavement over mains.....	152-153
physical and ordinary functional depreciation covered by.....	403
Public Service Gas case.....	1197-1198
relation to deduction of existing depreciation.....	371-372
relation to fair value.....	361
relation to original cost.....	352
reserve invested in improvements.....	361-363
San Diego water rate case.....	26-27, 437-438
San Francisco water rate case.....	430
San José telephone rate case.....	1186, 1189-1191
Savannah street railway fare case.....	427
sinking-fund method.....	410, 411, 414, 415, 417-419, 428-429
straight-line basis.....	410, 413, 418-419, 435
Strang telephone rate case.....	1195
Superior water, power and light case.....	1203-1204
Tucson gas and electric light case.....	1188-1189
Tuolumne County electricity rate case.....	1189
Washington Public Service Commission.....	403-404
Washington Supreme Court, electric railway rate case.....	407-409
Wisconsin Railroad Commission.....	409-413

Depreciation, functional:

see **FUNCTIONAL DEPRECIATION**

Depreciation, land value:

loss must be borne by owner.....	943
terminal land.....	141

Depreciation, overhead charges:

Chicago surface railway appraisal.....	215, 217
Columbus, Ohio, electricity rate case.....	221
Des Moines water rate case.....	222
Lincoln, Nebr., gas rate case.....	223
Massachusetts Validation Board.....	226
Michigan railroad appraisal.....	227
Minnesota railroad appraisal.....	228
New York Public Service Commission, 1st District.....	232
South Dakota railroad appraisal.....	233

Depreciation, overhead charges—Continued

PAGE

Washington Railroad Commission	235
Wisconsin railroad appraisal	237-238

Depreciation reserve:

accrued depreciation	370
amount in, measure of depreciation	349-350
cost-new	365, 366
function of	411
functional depreciation	382
invested in improvements	361-363
investment of	1185-1186
<i>see also</i> AMORTIZATION	

Des Moines, Iowa:

gas rate case:

cost of equally efficient plant as valuation basis	73
functional depreciation	393-394
going concern	498-499
unused property	194-195

water rate case:

annual depreciation allowance	428
excessive investment	198-199
going concern	480-482
overhead charges	221-222
pavement over mains	155-156
rate of return	685-686

Deterioration:*see* DEPRECIATION**Development expenses:**

amortization of	269-270
appreciation in land value an offset	944-945
depreciation of overhead charges	356
going concern in rate cases	491
New York Public Service Commission, 1st District	231, 262, 266-267

Discarded property 190-192, 194-195**Discount:**

present worth method of measuring depreciation	338
--	-----

Discount on bonds Chap. XIII, 268-286, 1075-1089

amortization of	269-271
Buffalo gas rate case	1086
Chicago gas plant appraisal	218
Chicago street railway settlement	274-275
Cleveland street railway settlements	274
Columbus electricity rate case	284-285
Commonwealth Edison appraisal, Chicago	1076
definition	275
elements of	268-269
excluded	17
Green Bay water rate case	1089
Kansas City street railway appraisal	1083-1085
Lincoln gas rate case	285
Milwaukee street railway rate case	1087
Minnesota railroad rate case	285-286
Montana, Wyoming and Southern rate case	1075-1076

Discount on bonds—Continued	PAGE
New York subway contract	275
public purchase cases	274
rate cases, summary	286
Seattle telephone rate case	237
state railroad appraisals	275-276
Superior water, light and power plant case	1087-1089
treatment in connection with capitalization	271-273
uniform systems of accounts	269-271
valuation for rate purposes	276-277
Washington Railroad Commission	277-278
Wisconsin Railroad Commission	278-284
<i>see also</i> CAPITALIZATION; INTEREST	
Duluth, Minn.:	
valuation of terminal land	135-136
Du Pont, A. B.:	
appraisal of Chicago surface railways	213-215

E

Earning power:	
fair value for rate purposes	6
franchise value in purchase cases	572-573, 582-583, 1292-1295
franchise value in rate cases	616, 618
measure of franchise value	613-614
rejected as basis for rates	513
standard for railroad valuation	65
valuation for tax and rate purposes	12
Edwards, Judge:	
actual cost the standard of value for rate purposes	93-94
Efficiency:	
physical depreciation	337
<i>see also</i> OPERATING EFFICIENCY	
Electric railways:	
actual cost	101
adaptation	322-325
annual depreciation allowance	1202-1203
appraisal for franchise renewal	857-860
appraisal of franchise value	629-631, 639
appreciation of land value	103
bond discount:	
Cleveland and Chicago settlements	274-275
Kansas City street railway appraisal	1083-1085
Maryland Public Service Commission	270
Milwaukee street railway rate case	1087
New York Public Service Commission, 1st District	271-272
Washington Railroad Commission	277-278
cost-new <i>v.</i> cost-less-depreciation	358, 368-369, 376-380
depreciation	1117
depreciation, annual allowance	403-404, 407-409, 417-419, 421-423, 424-428, 1202-1203
depreciation, bibliography	742-744
depreciation reserve	1168-1169
franchise value appraisal	1316-1317

Electric railways—Continued

	PAGE
franchise value in purchase cases.....	1292-1295
franchise value in rate cases.....	623, 1304
franchise value theory.....	640, 641-642
functional depreciation..	389-390, 392-393, 394-395, 397-398, 1180-1181
going concern as created income.....	507
going concern in purchase cases.....	1209
going concern in rate cases.....	477-478, 1231-1233, 1270-1271
going concern, Wisconsin Railroad Commission rule..	1277-1279, 1279-1280, 1289-1291
market value.....	46-48
misplaced or partially obsolete plant.....	56
overhead charges:	
Chicago surface lines.....	213-217
Cleveland street railway appraisal.....	218-220
Kansas City street railway appraisal.....	1043-1045
Massachusetts Validation Board.....	223-225, 240
Milwaukee street railway rate case.....	1063-1065
New York Public Service Commission, 1st District..	248-251, 259-260, 266-267
New York Public Service Commission, 2d District.....	264-265
St. Louis Public Service Commission.....	247-248
Toronto street railway appraisal.....	1061-1063
Washington Railroad Commission.....	235
pavements.....	172-174
physical depreciation.....	333-334, 341, 346-351, 354-355
present worth method applied to system as a whole.....	340-341
rate of return.....	653-654, 681-682, 684-685, 711
reproduction cost affected by cost of hypothetical buildings...	141-143
solidification, Washington Railroad Commission.....	312
valuation, bibliography.....	728-732
working capital.....	288-289, 303, 1104

Electrical apparatus:

functional depreciation.....	389-390
------------------------------	---------

Electricity plant:

accrued depreciation..	1146-1148, 1152-1153, 1153-1154, 1164-1165
additional plant.....	1019-1021
annual depreciation allowance..	406-407, 409-412, 423-424, 427- 428, 436-437, 1188-1189, 1198-1200
appreciation in land value.....	111-112, 119-123
bond discount.....	284-285, 1087-1089
comparison between coal and water-power production.....	1358-1361
cost-new v. cost-less-depreciation.....	366-367, 368-369
depreciation.....	739-740, 1115-1117
economic capacity reached.....	1021-1022
equally efficient plant.....	75
excessive investment.....	1013
extensions and additions for future use.....	1019-1021
fair present value of tangible and intangible property.....	30-31
franchise value in purchase cases.....	582-583, 588-589
franchise value in rate cases..	593-594, 1302-1304, 1312-1313, 1314-1315
functional depreciation.....	385-387, 388, 399-400, 1177-1179

Electricity plant—Continued**PAGE**

going concern:

created income..... 507

purchase cases..... 451-452, 454-456

rate cases.. 468-470, 492-495, 1223-1225, 1229-1233, 1234-
1237, 1238-1245, 1265-1270Wisconsin Railroad Commission rule.. 520-522, 524-531, 533,
541-542, 544-545, 546, 547, 1277-1279, 1279-1280, 1289-1291

license from General Electric Company..... 1367

overhead charges:

Arizona Corporation Commission..... 1033-1035

Columbus rate case..... 220-221

Commonwealth Edison case..... 1038-1039

New York Public Service Commission, 1st District.. 258-259, 262

New York Public Service Commission, 2d District... 1058-1060

St. Louis Public Service Commission.. 244-245, 247-248,
257-258, 263-264

Toronto electric light appraisal..... 1063

Wisconsin Railroad Commission..... 238, 246, 256-257

patent rights not capitalizable..... 1367-1368

pavement over mains..... 152-153

physical depreciation..... 335-337

piecemeal construction..... 305-306

property constructed out of surplus..... 186-187

public purchase, development of..... 2

rate of return.. 659-660, 661-662, 683-684, 690-691, 696-700,
706, 711, 1322-1325, 1328-1329, 1334-1337, 1340-1341, 1344-1349

repairs and replacements..... 1019-1021

saving of water power over steam power..... 1361-1362

savings effected by joint operation..... 1368

separate valuation for water power..... 1357-1358

unnecessarily large plant..... 1018-1019

unused property..... 192, 1013

valuation, bibliography..... 723-724

valuation of contract for water-generated electricity..... 1362-1365

water-power contract..... 1356-1357

working capital..... 290-294, 1091-1093, 1094-1096, 1102-1104

see also PROPERTY DONATED**Eminent domain:***see* CONDEMNATION**Engineering, overhead charges..... 238-240**

allowance for foresight..... 873-874

Cedar Rapids gas case..... 212

Chicago gas plant appraisal..... 218

Chicago street railway appraisal..... 214

Cleveland street railway appraisal..... 219, 220

Columbus electricity rate case..... 221

depreciation of..... 355

Des Moines water rate case..... 222

Lincoln, Nebr., gas rate case..... 223

Massachusetts Validation Board..... 224, 225, 239-240

Michigan railroad appraisal..... 227

Memphis water plant appraisal..... 227

Minnesota railroad appraisal..... 228

New York Consolidated Gas case..... 229

Engineering overhead charges—Continued

	PAGE
New York Public Service Commission, 1st District.....	231, 232
St. Louis Public Service Commission.....	264
Seattle telephone rate case.....	236
South Dakota railroad appraisal.....	233
Washington Railroad Commission.....	233-234, 235
Wisconsin railroad appraisal.....	237
Wisconsin Railroad Commission.....	238-239

England:

public purchase.....	458-459
sliding scale method of regulating rates.....	711
working capital estimated for tax purposes.....	289-290

Equally efficient plant.....72-77**Eshleman, Commissioner:**

actual investment wisely made correct basis for rates.....	916-918
annual depreciation allowance, telephone rate case.....	1189-1191
contract for rental of telephone instruments.....	1365-1366
contracts with consumers, water and irrigation case.....	1352-1353
pavement over mains considered, San José telephone case..	973-975
unused property held pending sale.....	1005-1006

Established business, cost of:

excessive investment in plant.....	198
going concern value.....	560, 562-565
Interstate Commerce Commission.....	97-101
purchase cases.....	568
Texas railroad rate case.....	59
<i>see also</i> ACTUAL COST; GOING CONCERN; GOING CONCERN, WISCONSIN RAILROAD COMMISSION RULE	

Evans, District Judge:

actual cost standard of valuation.....	85
annual depreciation allowance.....	415
fair value for rate purposes.....	34-35
franchise value in rate cases.....	620-621
going concern in rate cases.....	485-486
overhead charges.....	212-213
rate of return.....	673, 679-680
working capital.....	302

Excessive investment:

San Joaquin irrigation case.....	29
Washington valuation statute.....	49

Expenses:

see GENERAL EXPENSES; ORGANIZATION EXPENSES; PRELIMINARY EXPENSES; PROMOTION EXPENSES

Experimental operation:..... 322

see also FUNCTIONAL DEPRECIATION

Expert opinion..... 211**Express companies:**

rate of return.....	1330-1331
value for tax and rate purposes.....	7

F

	PAGE
Fair value for rate purposes	Chap. II, 18-40, 816-892
actual cost and reproduction cost as factors in determining cost	
of production.....	823-825
actual cost basis..	442-443, 818, 827-829, 870-871, 884-885, 887-888
actual cost, or amount of investment wisely made.....	916-918
actual cost the normal standard.....	825-829
Alabama railroad rate cases.....	878-879
allowance for engineering foresight.....	873-874
Arizona Corporation Commission.....	856-857
bond discount.....	277, 285, 1075-1076
bonded debt not necessarily complete or accurate criterion..	879-880
Buffalo General Electric rate case.....	885-886
capitalization basis.....	442
capitalization in its relation to fair value.....	874-875
capitalization of contract excluded.....	625
Cedar Rapids gas case.....	32-33
Columbus, Ohio, electricity rate case.....	30-31
Consolidated Gas case.....	31
Consolidated Gas, etc., rate case (Baltimore).....	881-884
construction cost as basis.....	34-35
cost-new <i>v.</i> cost-less-depreciation.....	358
cost-of-reproduction-new, Nevada Commission.....	912-913
cost plus appreciation in value.....	23-24
Covington and Lexington Turnpike case.....	840-841
Cumberland Telephone Company case.....	34-35
decisions by courts and commissions.....	840-874
definition.....	50-51, 57, 868
definition of actual cost and its determination.....	834-837
Delaware and Atlantic Telephone, etc., case.....	862-863
dependent on purpose.....	4-5
dependent on value of service.....	57-58
depreciation.....	331
depreciation reserve.....	363
Diamond State Telephone case.....	884
earlier decisions.....	18-19
electrical property, method immaterial.....	829
elements to be considered.....	24-26, 35-37
franchise value excluded.....	580, 582
franchise value included.....	1298-1302
functional depreciation.....	390
going concern.....	490-494, 543-544
Great Northern Railway rate case.....	884-885
Kansas City stock-yards case.....	23-24, 842-848
Kansas City street railway appraisal.....	857-860
Knoxville water case.....	875-876
law unsettled.....	802-803
Lincoln, Nebr., gas rate case.....	223
Manitowoc water case.....	35
may be less than market value.....	961-963
Minnesota rate cases.....	848-851
Missouri rate cases.....	851-852
money properly invested basis for street railway rates.....	924-925
Montana, Wyoming and Southern case.....	879-880
National Association of Railway Commissioners.....	855-856
Nebraska railway bond and stock issues.....	888

Fair value for rate purposes—Continued

	PAGE
Nebraska telephone rate case.....	887-888
need for some standard.....	818-820
New Jersey Supreme Court.....	863-867
New York Public Service Commission, 2d District.....	867-871
no authoritative standard.....	817-818
no hard and fast rule of valuation.....	19-21, 38-40, 71
normal cost should at least be adopted for the future.....	839-840
Northern Pacific Railway rate case.....	876-878
original cost as basis for.....	378
original cost, other than land, basis for telephone rates.....	925-928
overcapitalization disregarded.....	885-887
physical valuation as basis for.....	57-58
Pioneer telephone case.....	33-34
poorly located and unsuccessful enterprises.....	819-820
present value.....	22-23, 29, 31-33
public purchase cases.....	448
Public Service Gas Company case.....	863-867
rate of return.....	649-650, 708-709
reasonable rate of charge and cost of production.....	820-823
reasonable value at time used.....	26-29
reasonableness of rates dependent on.....	714, 718
recent decisions.....	39
reproduction cost basis.....	442, 826-827
reproduction-cost-less-depreciation basis.....	32-34, 621, 817, 878-879
reproduction-cost-new basis for.....	207-208
rights of investors.....	818
San Diego water rate cases.....	22-23, 26-28, 880-881
San Joaquin irrigation case.....	29
Senate Committee on Interstate Commerce report.....	852-855
Smyth v. Ames case.....	24-26
Spring Valley water rate cases.....	28-29, 35-37
standard of value as affected by past conditions and vested rights	837-839
tax assessment of easement in streets.....	1305-1306
Texas and Pacific Railway rate case.....	878
theory and limitations of the reproduction standard.....	829-823
theory of reproduction cost.....	825
trend of decisions.....	37-38, 817-818
Union Pacific Railway cases.....	19-21
United Railways of St. Louis case.....	888-891
value of service to consumer.....	860-862
Wisconsin Railroad Commission.....	871-874, 891-892
<i>see also</i> VALUE	

Farrington, District Judge:

annual depreciation allowance.....	430
elements of fair value.....	35-37
equally efficient plant.....	75-76
franchise value in rate case.....	615-616, 617-618
going concern:	
as created income.....	515-516
in rate cases.....	483-485
theory.....	557
Wisconsin Railroad Commission rule.....	549
misplaced or partially obsolete plant.....	57-58

Farrington, District Judge—Continued	PAGE
monopoly value.....	54
rate of return.....	682-683, 694
unused property.....	197-198
value for tax and rate purposes.....	8
Favorable location:	
franchise in purchase cases.....	576
going concern in rate cases.....	467, 478, 479
Fluctuations in cost:	
see ACTUAL COST; PRICES	
Fowle, Frank F.:	
going concern as created income.....	516-517
going concern value theory.....	569-570
Franchise value:	
elements included.....	446
going concern value.....	553, 554, 568-569
net earnings rule as basis.....	303
rate of return.....	672, 686, 708-709
reasonable rates.....	614, 615
tax purposes.....	8, 12
Franchise value appraisal.....	Chap. XXVIII, 629-639, 1316-1321
Chicago street railway tax case.....	639
Cleveland street railway settlement.....	629-631
Kansas City street railway case.....	1316-1317
Michigan railroad appraisal for tax purposes.....	631-635
net earnings rule.....	635-639
New Jersey railroad appraisal for tax purposes.....	1317-1321
New York special franchise tax.....	635-639
Unexpired franchise, method used in valuing.....	1316-1317
Franchise value in purchase cases.....	Chap. XXVI, 572-591, 1292-1297
actual cost of obtaining telephone right of way.....	1292
Appleton waterworks case, indeterminate permit.....	1295-1297
compensation for loss of franchise to take tolls.....	575-578
Connecticut Supreme Court.....	582-583
determined by reasonable rates.....	1292-1293
earnings as basis.....	572-573
exclusive franchise.....	573-574, 580, 584-585
existence entirely independent of the structure.....	587
franchise rights and earning power capitalized.....	1293-1295
going concern.....	441, 456, 461, 464
indeterminate permit.....	588-589
Maine Supreme Court, water plant.....	583-588
Massachusetts Supreme Court, water plant.....	579-580
Monongahela Navigation Company v. United States.....	575-578
New York water plant condemnation.....	573-575
Pennsylvania Supreme Court.....	572-573, 589-590
reasonable rates, value of right to charge.....	589-590
Rhode Island Supreme Court, water plant.....	580-582
right to lay pipes of no value to city.....	579-580
rules for appraisers in Maine condemnation cases.....	583-588, 716, 718
summary.....	590-591
unexpired franchise value.....	580-582
Wisconsin Railroad Commission, electricity plant.....	588-589

	PAGE
Franchise value in rate cases.....Chap. XXVII, 8, 12, 592-628, 1298-1315	
Alabama railroad rate cases.....	625-626, 1298-1302
Buffalo electricity case.....	1312-1313
Chicago gas plant appraisal.....	618-620
Columbus electricity rate case.....	593-594
Commonwealth Edison appraisal, Chicago.....	1302-1304
condemnation and rate regulation.....	592-593
Consolidated Gas case:	
appeal to United States Supreme Court.....	606-609
opinion of state commission.....	594-595
permanent injunction granted.....	598-606
preliminary injunction.....	595-596
report of special master.....	596-598
summary.....	609-612
dependent on earning power.....	489
going concern.....	471, 473-474, 478, 479, 483
Haverhill gas rate case.....	1306
Iowa Supreme Court, Cedar Rapids gas case.....	627
Lincoln, Nebr., gas rate case.....	612-613
Lincoln, Nebr., telephone rate case.....	1304-1305
Louisville telephone rate case.....	620-621
lucrative contract, valuation excluded.....	623-625
Macon, Ga., street railway and lighting case.....	1304
methods of appraisal.....	596-598
Missouri Supreme Court, telephone case.....	621-622
New York Public Service Commission, 1st District.....	623-625
no specific value assigned.....	593-594
Public Service Gas Company case.....	1306-1312
San Francisco water rate case.....	592-593, 615-618
Savannah street railway fare case.....	623
Stanislaus County, Cal., water rate case.....	622-623
stipulated payments and free service as part of franchise cost	
	1313-1315
summary.....	626-628
Supreme Court of New Jersey.....	1308-1312
tax assessments of easements in streets included in fair value	1305-1306
tax assessment of franchises included in fair value.....	1298-1302
telephone right of way included at actual cost.....	1313
unexpired franchise, method used in valuing.....	1316-1317
Wisconsin Railroad Commission.....	613-615
Franchise value theory.....Chap. XXIX, 640-646	
condemnation cases.....	645-646
distinction between valuation for public purchase and rate mak-	
ing.....	643-644
economic function of franchise.....	640-643
net income rule.....	644
rate cases.....	643-644
rate of return.....	644
Franchises:	
bond discount.....	275
capitalization of.....	168
definition.....	461, 617
extraordinary supersession, treatment of.....	392
rights and earning power capitalized.....	1293-1295

Franchises—Continued

PAGE

unexpired, method used in valuing.....629-631, 1316-1317
see also SPECIAL FRANCHISES

Functional depreciation.....Chap. XIX, 381-400, 1170-1181
 annual allowance.....415, 419-423, 430, 432-433
 Beatrice telephone rate case.....1180
 casualty.....400
 compared with physical.....330
 Consolidated Gas case.....388-389
 cost of supersession an operating expense.....1170-1177
 deduction made in rate and purchase cases.....384-387
 definition.....330, 381
 Des Moines gas rate case.....393-394
 extraordinary.....383-384, 391
 going value.....536
 Holyoke, Mass., purchase case.....385-387
 hypothetical.....387-390
 Kansas City Southern Railway case.....1170-1177
 inadequacy, definition.....349
 investments in unsuccessful experiments excluded.....393-394
 Lincoln, Nebr., telephone rate case.....1179-1180
 Milwaukee street railway fare case.....394-395, 1180-1181
 past losses due to supersession.....390-393, 395-400
 New York Public Service Commission, 1st District.....388
 obsolescence, definition.....349
 obsolete type of machine.....1177-1178
 • ordinary.....382-383
 overhead charges.....355
 rate of return.....676, 679, 681
 reproduction cost includes.....411
 Solari electricity rate case.....1178-1179
 street railway supersession excluded in capitalization case...397-398
 superseded equipment entitled to equitable consideration...394-395
 supersession due to consolidation.....399-400
 Tucson gas and electricity case.....1178
 Washington Public Service Commission.....389-390
 Wisconsin Railroad Commission.....399-400

G**Garoutte, Judge:**

annual depreciation allowance.....437-438
 money actually invested basis of fair value.....880

Gas plant:

accrued depreciation.....1146-1147, 1148, 1152-1153, 1159-1164
 actual cost standard of value for rate purposes.....96-97
 additional plant.....1019-1021
 annual depreciation allowance.....404-407, 409-412, 423-424,
 428-430, 438-439, 1188-1189, 1197-1198
 appreciation in land value.....104-108, 119-123, 141
 bond discount.....270, 285, 1086
 cost-new *v.* cost-less-depreciation.....365-366, 367, 369-371
 depreciation, bibliography.....740-741
 economic capacity reached.....1021-1022
 extensions and additions for future use.....1019-1021

Gas plant—Continued

	PAGE
fair value includes appreciation	31
franchise value in purchase cases	582-583
franchise value in rate cases	595-612, 618-620, 623-625, 1305-1312
functional depreciation	385-387, 388, 393-394, 399-400, 1178
going concern as created income	507, 514-515
going concern in public purchase	451-452, 454-456
going concern in rate cases	470-474, 475-477, 490-495, 498-499, 1220-1235, 1245-1251, 1254-1265
going concern value theory	556-557
going concern, Wisconsin Railroad Commission rule	524-531, 541-543, 544-545, 546, 1275-1277, 1284-1288
lighting contract, capitalization of profits	1350-1352
overhead charges:	
Buffalo gas case	1067
Cedar Rapids case	212, 253, 262
Chicago gas plant	217-218
Lincoln, Nebr., rate case	222-223, 253
Milwaukee gas case	1065-1067
New Jersey Public Utility Commission	228-232
New York Consolidated Gas case	229-230
New York Public Service Commission, 1st District	262
Palo Alto gas case	1035-1036
Phoenix gas and electric light case	1034-1036
Public Service Gas Company case	1046-1048
Queens Borough gas case	1053
Tucson gas and electricity case	1034
Wisconsin Railroad Commission	238-239, 246, 256-257
pavement over mains	148-153, 154, 156-159
physical depreciation	335-337
piecemeal construction	305-306
property constructed out of surplus	178-180, 186-187
public purchase, development of	2
rate of return	1322-1323, 1324-1325, 1328-1330, 1335-1337, 1341-1342, 1343-1344
repairs and replacements	1019-1021
reproduction-cost-less-depreciation	32
services, valuation of	166
unit prices	205
unused property	191-192, 194-197, 1006-1007, 1007-1010, 1013, 1015-1017
valuation, bibliography	724
working capital	287-288, 289-302, 1091-1093, 1097-1104
<i>see also</i> PROPERTY DONATED	

General expenses:

Seattle telephone rate case	236
Washington Railroad Commission	234, 235

Georgia Railroad Commission:

annual depreciation allowance	427
franchise value in rate cases	623, 1304
going concern in street railway rate case	1231-1233

Gifts:

see PROPERTY DONATED

- Gilbert, Circuit Judge John I.:** PAGE
franchise value in rate cases..... 611
rate of return..... 657-658
- Gillette, Halbert P.:**
bond discount..... 276
cost under present or original conditions..... 78-79
determination of actual cost..... 86
overhead charges..... 233-235, 241
physical depreciation..... 342
reproduction-method costs..... 832
- Going concern:**
definitions..... 501, 502, 510, 514, 558-559
element in determining present value, appraisals for condem-
nation..... 716, 718
Knoxville water rate case..... 474-475
negative and positive..... 177
overhead charges..... 266-267
valuation, bibliography..... 735
see also GOOD WILL
- Going concern as created income..... Chap. XXIII, 500-519**
comparative method of..... 501, 513-516
development period..... 504-508
Dubuque water case..... 505-506
earnings during construction period..... 508-510
income under existing rates *v.* income under reasonable rates.. 510-513
New York Public Service Commission, 1st District..... 514-515
relation to cost..... 516-517
San Francisco water rate case..... 515-516
standard of valuation in purchase cases..... 559
summary..... 518-519
Wisconsin Railroad Commission..... 513
- Going concern, public purchase..... Chap. XXI, 440-465, 1206-1213**
additional value from operation as single line railroad..... 446-448
allowance for established business..... 445-446
allowance refused..... 452-454
Appleton waterworks case..... 1209-1213
Galena, Kans., water plant..... 456-457
Gloucester, Mass., water plant..... 449-450
Kansas City water plant..... 440-446
Maine Supreme Court..... 457-460
Mobile water plant appraisal..... 453-454
Newburyport, Mass., water plant..... 448-449
Norwich, Conn., lighting plant..... 454-456
Omaha water case..... 462-463
Pennsylvania water plant case..... 460-462
Railway and Canal Commission of Great Britain..... 1206-1208
Rhode Island water plant..... 452-453
summary..... 464-465
Westchester street railway case..... 1209
Wisconsin Supreme Court, waterworks case..... 1209-1213
- Going concern, rate cases..... Chap. XXII, 466-499, 1214-1273**
allowance to be made in rate of return..... 1265-1270
Baltimore gas and electricity case, early losses..... 1233-1234

Going concern, rate cases—Continued

	PAGE
Berlin electric light case.....	1239-1243
Buffalo electric plant and light cases.....	1265-1270
Cedar Rapids gas rate case.....	475-477
Cedar Rapids water rate case.....	468
Chicago telephone appraisal.....	1228-1229
Cleveland street railway appraisal.....	477-478
Columbus electricity rate case.....	468-470
Commonwealth Edison case, Chicago.....	1229-1231
considered in rate of return but not in fair value.....	490-494
Consolidated Gas case.....	470-474
deficit method rejected.....	489-490
Des Moines gas case.....	498-499, 1220-1223
Des Moines water rate case.....	480-482
distinction between value for rate purpose and value for purchase	468
elements of.....	494-495
expenditures to obtain business not capitalizable.....	1270-1271
Grafton County electricity case.....	1243-1244
Haverhill gas case.....	1234
Indiana natural-gas case.....	1272-1273
Kings County lighting case, Appellate Division.....	1254
Kings County lighting case, Court of Appeals.....	1254-1255
Lincoln, Nebr., telephone case.....	1237-1238
Louisville telephone rate case.....	485-486
Macon, Ga., railway and lighting case.....	1231-1233
Michigan hydroelectric capitalization case.....	1234-1237
Montana railroad case.....	1218-1220
New Hampshire Water and Electric Power case.....	1245
New Jersey Supreme Court, gas case.....	1249-1251
New Jersey telephone case.....	1251-1253
New York Public Service Commission, 1st District.....	490-495
Oakland, Cal., water rate case.....	489-490
Oklahoma railroad rate case.....	479-480
Oklahoma telephone rate case.....	486-488
Palo Alto gas case.....	1225-1227
Phoenix gas and electric light case.....	1223-1224, 1225
Public Service Gas Company case.....	1245-1251
San Francisco water rate case.....	482-485
South Dakota railroad appraisal.....	478-479
Spokane telephone exchange valuation.....	1271-1272
summary.....	495-499
Texas railroad rate case.....	466-467
theory of going value.....	1214-1218
based on actual cost or reproduction cost.....	1215
development costs should not be capitalized.....	1216
element of fair value.....	1214
estimated actual cost v. estimated reproduction cost..	1217-1218
New Jersey Public Utility Commission rule.....	1217
public policy requires amortization of intangible and ques- tionable elements.....	1216-1217
Wisconsin Railroad Commission rule.....	1215-1216, 1218
Tucson gas and electricity case.....	1224-1225
Urbana, Ohio, water rate case.....	477
valuation of, identified with cost-of-reproduction-less-deprecia- tion.....	485-486
value excluded.....	622

	PAGE
Going concern, value theory.....Chap. XXV, 553-571	
commercial value.....	554
Consolidated Gas case.....	556
cost of establishing paying business.....	562-565
cost of promotion of business.....	565-566
cost of service theory.....	569-570
franchise, relation to.....	553-554
good will.....	554-558
market value <i>v.</i> cost as measure of.....	560-561
methods of estimating.....	559-560
public purchase cases.....	567-569
rate cases.....	562-567
reproduction cost <i>v.</i> actual cost as measure of.....	561-562
Wisconsin Railroad Commission.....	557-558, 563-565
Going concern, Wisconsin Railroad Commission rule ..Chap. XXIV,	
520-552, 1274-1291	
actual-cost method.....	1279-1280
annual appreciation in land value.....	531
annual depreciation allowance.....	531-533
certain methods of determining, rejected.....	524-526
comparative-plant method.....	1279-1280
conclusion.....	551-552
consideration of, by courts and other commissions.....	548
cost of business promotion offset by earnings.....	542-543
cost of establishing business method.....	526-531
cost of establishing business, measure of going value.....	522-524
criticism of comparative-plant method.....	1280-1285
deficit method disapproved.....	548-549
effect of application on valuations fixed.....	543-547
estimate of cost to produce a paying business considered...	1285-1288
expense of certain litigation excluded.....	540-541
general policy defined.....	1274-1275
going value a recognized element in purchase valuation.....	520-522
limitations of early-deficit method.....	1277-1279
losses due to careless and unprogressive management not cap- italized.....	539-540
losses due to competition.....	541-542
New York Public Service Commission, 1st District.....	549-550
Oshkosh waterworks purchase case.....	1274-1275
past losses all not capitalized.....	534-539
Peoria waterworks rates.....	550-551
plant operated at a loss.....	522, 523
rate of return during development period.....	533-534
relatively poor development of business.....	1275-1277
San Francisco water rate case.....	548-549
services and house piping, cost of.....	1288-1291
Sheboygan gas rate case.....	1275-1277
State Journal Printing Company <i>v.</i> Madison Gas and Electric Company.....	526-531
Superior water, light and power rate case.....	1277-1279
unrequited cost of establishing business.....	1274-1275
valuation for rate purposes.....	522-524
Good will:	
allowance for, in purchase cases.....	453

Good will—Continued	PAGE
competitive business.....	555-556
court decisions.....	556-557
definitions.....	457, 470, 472, 554-555
distinct from established business.....	468, 472
excluded from valuation, rules for appraisers.....	716
franchise value in purchase cases, excluded from.....	579, 582, 583
franchise value in rate cases.....	621
going concern in rate cases.....	476, 478, 481-482, 486, 491
Texas railroad rate case.....	59
valuation in rate cases.....	467, 469, 470, 471, 473-474
value distinct from franchise value.....	598
value excluded in public purchase cases.....	448, 449, 457-458
value included in franchise value.....	446
Wisconsin Railroad Commission.....	557-558
Grade separation contributions:	
inclusions in valuations.....	167-170
see also PROPERTY DONATED	
Grading, appreciation of:	
see SOLIDIFICATION	
Graves, Judge:	
going concern in purchase cases.....	456
Gray, Henry L.:	
annual depreciation allowance.....	403-404
functional depreciation.....	389-390
overhead charges.....	236-237, 353-354
solidification.....	312
unit prices.....	206-207
Gray, Judge:	
annual depreciation allowance.....	418
control over rate regulation.....	3
rate of return.....	686
working capital.....	303
Great Britain:	
public purchase.....	458-459
sliding scale method of regulating rates.....	711
telephone purchase case, overhead charges.....	1039-1042
working capital estimated for tax purposes.....	289-290
see also National Telephone Co. Ltd. v. His Majesty's Postmaster-General in Table of Cases.	
Grosscup, Circuit Judge:	
annual depreciation allowance.....	424
appraisal of franchise value.....	639
rate of return.....	653-654
Gunter, William A.:	
annual depreciation allowance.....	1204-1205
franchise value in rate cases.....	625-626, 1298-1302
identical reproduction of existing railroad.....	899-900
railroads entitled to increase in land values.....	940
rate of return, Alabama railroad rate cases.....	1327
solidification of road-bed.....	1108

H

Hagenah, William J.:	PAGE
annual depreciation allowance.....	429-430
cost-new v. cost-less-depreciation.....	365-366
franchise value in rate cases.....	618-620
overhead charges.....	217-218
pavement over mains.....	154
rate of return.....	675-677
working capital.....	298-299
Haight, Judge:	
annual depreciation allowance.....	418-419, 423
appraisal of franchise value.....	637
Hall, Frank B.:	
overhead charges.....	235-236
Hammond, Judge:	
Fall River capitalization, case.....	1000-1002
Hansel, Charles:	
franchise value appraisal, New Jersey railroads and canals.....	1317-1321
revaluation of railroads and canals, New Jersey.....	966-968
solidification of road-bed.....	1110-1111
Harlan, Justice:	
cost of reproduction standard.....	70
fair value for rate purposes.....	24-27
San Diego water rate case.....	26-27
unjust burdens on public not warranted.....	840-841
Hayes, Hammond V.:	
accrued depreciation, deduction of.....	1140-1141
actual cost, method of estimating.....	836-837
Hayes, Judge:	
reproduction-cost-less-depreciation the controlling factor.....	33-34
Hemans, Commissioner:	
going concern in hydroelectric capitalization case.....	1235-1237
Henry, George F.:	
annual depreciation allowance.....	428-429
going concern in rate cases.....	480-481
overhead charges.....	221-222
pavement over mains.....	155
unused property.....	198-199
Hider, Arthur:	
Memphis water plant appraisal.....	226-227
Holcomb, Judge:	
value for tax and rate purposes.....	11
Holmes, Justice:	
annual depreciation allowance.....	439
cost-of-reproduction standard.....	70
excessive investment in plant.....	199-200
fair value for rate purposes.....	27-28
franchise value in purchase cases.....	579-580
going concern in public purchase.....	448-449

Holmes, Justice—Continued	PAGE
rate of return	674, 1325-1326
water rights, Stanislaus County case	1369-1370
Hook, Circuit Judge:	
adaptation of road-bed	318
going concern in rate cases	479-480
Hough, District Judge:	
appreciation in land value	105-108
franchise value in rate cases	598-606, 609
going concern in rate cases	472-473
going concern value theory	556
rate of return	666-667
working capital	295-296
Hughes, Justice:	
accrued depreciation	1142-1143
market value of land in rate cases	950-955
Missouri rate cases	893-894
valuation for tax and for rate purposes not the same	807
Hunt, Judge:	
accrued depreciation	1144-1146
going concern in railroad rate case	1219-1220
multipliers approved in railroad land valuation	957-958
I	
Identical reproduction of existing plant	71-72, 899-900
<i>see also</i> REPRODUCTION-COST-NEW	
Inadequacy:	
definition	349
<i>see also</i> FUNCTIONAL DEPRECIATION	
Income, capitalization of:	
<i>see</i> CAPITALIZATION OF INCOME; GOING CONCERN	
Income tax:	
<i>see</i> CORPORATION INCOME TAX	
Indeterminate permits	589, 591
Indiana Railroad Commission:	
cost of pavement over mains	975-976
going concern in natural-gas rate case	1272-1273
value for tax and rate purposes	7-8
Insurance:	
Cleveland street railway appraisal	220
Columbus electricity rate case	221
included in overhead charges	210
Massachusetts Validation Board	224
Intangible property:	
amortization of	270
fair value for rate purposes	30-31
inclusion in fair value	51
railroad valuation bill	854-855
<i>see also</i> FRANCHISES; GOING CONCERN; GOOD WILL	

Interest:	PAGE
bond discount.....	275, 279
capitalization rate dependent on rate of.....	42
deferred in bond discount.....	268-269
discount on securities.....	273
Massachusetts Validation Board.....	224, 225, 226
paid in advance.....	272
Seattle telephone rate case.....	236
working capital.....	290
Interest during construction:	
Cedar Rapids gas case.....	212, 253
Chicago gas plant appraisal.....	218
Chicago street railway appraisal.....	214, 216
Cleveland street railway appraisal.....	219, 220
Columbus electricity rate case.....	221
depreciation of overhead charges.....	355-356
Des Moines water rate case.....	222
disallowed as based on "mere guesswork".....	253-254
going concern as created income.....	509
going concern in rate case.....	487-488
included in overhead charges.....	210
Lincoln, Nebr., gas rate case.....	223, 253
Maine Supreme Court.....	253
Massachusetts Validation Board.....	224, 261
Michigan railroad appraisal.....	227, 260
Minnesota railroad appraisal.....	228, 254-255, 260
New Jersey Court of Chancery.....	253
New York Consolidated Gas case.....	229
New York Public Service Commission, 1st District.....	232, 258-260, 266
New York Supreme Court.....	253-254
Oklahoma telephone rate case.....	232, 255-256
Railway and Canal Commission of Great Britain.....	1073
St. Louis Public Service Commission.....	257-258
South Dakota railroad appraisal.....	233, 261
Texas railroad rate case.....	61
Washington railroad appraisal.....	276
Washington Railroad Commission.....	234, 235
Washington valuation statute.....	48-49
Wisconsin railroad appraisal.....	237
Wisconsin Railroad Commission.....	238, 256-257
working capital.....	297-298
Interstate Commerce Commission:	
actual cost as standard of value.....	97-101
appreciation in land value.....	112-114
discount on bonds in uniform system of accounts.....	269
inflated securities.....	876-878
property constructed out of surplus.....	182-186
rate of return.....	670
Inventory cost:	
definition.....	211
Investment cost, uniform:	
depreciation deduction necessary to secure.....	359-360
method of adjusting depreciation.....	343-346
relation to annual depreciation allowance.....	361

Investment value:	PAGE
definition	42
standard of value	50-51
<i>see also</i> EXCESSIVE INVESTMENT	

Iowa Supreme Court:	
Cedar Rapids gas rate case	32-33, 150-151, 212, 253
franchise value in rate cases	627
gas and water cases, annual depreciation allowance	438-439
going concern, Cedar Rapids gas rate case	475-477
going concern, Cedar Rapids water rate case	468
going concern in rate cases, Des Moines gas case	498-499
rate of return, gas rate case	673-674
rate of return, waterworks	654-655
unit prices	205-206
working capital	300-301

Irrigation:	
annual depreciation allowance	430-431, 439
cost-new <i>v.</i> cost-less-depreciation	371-372
franchise value in rate cases	622-623
property donated	163-164
rate of return	656-657
solidification, San Joaquin case	320-322

Irrigation plants:	
contracts with consumers	1352-1353
<i>see also</i> CONTRACTS, WATER POWER, AND PATENT RIGHTS	

J

Jackson, D. C.:	
annual depreciation allowance	431-433

Jackson, Wm. B.:	
annual depreciation allowance	431-433

Johnson, Mayor:	
electric railways, pavement, inclusion of	173

Jones, District Judge:	
cost-of-reproduction method	898-899
franchise value in rate cases	1302
railroads entitled to increase in land value	939-940
rate of return	663-665, 1326-1327

Judson, C. H.:	
overhead charges	235-236

K

Kansas City:	
bond discount, street railway appraisal	1083-1085
street railway appraisal, franchise renewal	857-860, 1043-1045
water plant purchase, going concern	440-446

Kansas City stock-yards case:	
cost plus appreciation in value	23-24
value of service to consumer	842-848

Kansas Supreme Court:	PAGE
Galena water plant purchase, going concern	456-457
Kellogg, Judge:	
adaptation and solidification of road-bed	320
annual depreciation allowance	416-417, 425-426
franchise value, purchase case	1293
going concern, street railway purchase case	1209
overhead charges	254
reproduction cost, right of way	133-134
Kennish, Judge:	
annual depreciation allowance	435-436
franchise value in rate cases	621-622
rate of return	684
Kirby, Judge:	
annual depreciation allowance	437
rate of return	683-684
Knoxville:	
water rate case, going concern	474-475

L

La Boeuf, Judge:	
annual depreciation allowance	421-423
franchise value theory	641-642
Lacombe, Circuit Judge:	
franchise value in rate cases	595-596
Ladd, Judge:	
going concern in rate cases	475-476
reproduction-cost-less-depreciation	32-33
La Follette, Senator Robert M.:	
railroad valuation bill	852
Land:	
acquired in advance of present need	195-198
overhead charges	218, 219
see also RAILROAD LAND; RAILROAD RIGHT OF WAY; REAL ESTATE; TERMINAL LAND	
Land grants:	
see PROPERTY DONATED	
Land, valuation of	Chap. VI, 102-147, 935-969
actual cost ascertainable	836
actual-cost method rejected	849
actual cost <i>v.</i> present value	125-126
additions to market value rejected	963
Alabama railroad rate cases	939-940, 955-957
allowance of reduced return	114-119
annual increase in value not income	945-946
appraisal, sales method	144-147
appreciated or present value as basis for rate purposes	946-947
appreciation	103-126
appreciation an offset to development expense	944-945
appreciation must be considered in fixing fair rate of return	936-938

Land, valuation of—Continued	PAGE
appreciation set off against depreciation.....	119-120
appreciation treated as income.....	120-126, 936-938
Arizona Corporation Commission.....	941
availability for railroad purposes enhances value.....	136-137
availability for special use.....	137-138
Berlin electric light case.....	944-945
California Railroad Commission.....	941-943
Cataract Power and Conduit case.....	946-947
Central of Georgia Railway case.....	955-957
Chicago and Northwestern Railway case.....	958-960
Chicago telephone appraisal.....	943-944
Consolidated Gas case.....	104-108
Consolidated gas and electric case, Baltimore.....	963
fair value may be less than market value.....	961-963
Gately & Hurley case.....	969
initial cost, with certain additions, capitalization case.....	963-966
Interstate Commerce Commission.....	112-114
market value as standard for tax purposes.....	966-968
market value basis in telephone rate case.....	947-948
market or present value approved basis for rates.....	949-955
Minnesota appraisal and rate case.....	112, 129-130, 135-137
Minnesota rate cases.....	935-936, 949-955
Minnesota Supreme Court.....	115-119
Montana, Wyoming and Southern case.....	957-958
multipliers not to be used in finding fair value.....	936
multipliers used in railroad land valuation.....	957-958
National Association of Railway Commissioners.....	109-110
New Jersey revaluation of railroads for tax purposes.....	966-968
New York Appellate Division and Court of Appeals.....	133-134, 945-946
North Coast Water Company case, actual cost.....	941-942
Northern Michigan Power Company case, hydroelectric.....	963-966
Pacific Gas and Electric Company case.....	941
present or market value basis of fair value for rates.....	935-936
present value approved.....	849
Public Service Gas Company case.....	968
reduced return allowed on terminals.....	115-119
reproduction cost affected by cost of hypothetical buildings.....	141-143
reproduction-cost method rejected.....	949-955
reproduction cost of railroad right of way.....	126-134
reproduction cost same as present condemnation cost.....	126-127
St. Louis Public Service Commission.....	111-112
South Dakota Railroad Commission.....	110-111, 131
Southwestern Telephone and Telegraph case.....	947-948
Stockton Terminal and Eastern Railroad case.....	961-963
Superior water, light and power case.....	949
trend of decisions and practice.....	103-104
United States Supreme Court.....	108
unused land.....	1010-1011
use of multiples.....	127-129, 131-134
vested rights.....	838
Wisconsin Railroad Commission.....	108-109, 137-138
 Lane, Commissioner:	
actual cost the standard of value for rate purposes.....	97-101

Lane, Commissioner—Continued	PAGE
property constructed out of surplus.....	186
rate of return.....	711-712
Lawrence, Justice A. T.:	
brokerage.....	1077-1079
depreciation.....	1113-1114
going concern in telephone purchase case.....	1206-1208
Lawrence, John C.:	
appreciation in land value.....	109-110
competition in relation to market value theory.....	51
market value theory.....	42-45
misplaced or partially obsolete plant.....	55
Legal expenses:	
Buffalo gas rate case.....	1067-1068
Chicago gas plant appraisal.....	218
Chicago street railway appraisal.....	214
Cleveland street railway appraisal.....	220
depreciation of overhead charges.....	356
Des Moines water rate case.....	222
included in overhead charges.....	210, 262
Massachusetts Validation Board.....	224, 225
Michigan railroad appraisal.....	227
Minnesota railroad appraisal.....	228
South Dakota railroad appraisal.....	233
Washington Railroad Commission.....	234, 235
Wisconsin railroad appraisal.....	237
Wisconsin Railroad Commission.....	238
Lincoln, Nebr., gas rate case:	
bond discount.....	285
franchise value.....	612-613
overhead charges.....	222-223, 253
rate of return.....	671-672
working capital.....	301
Linn, Talfourd P.:	
annual depreciation allowance.....	427-428
bond discount.....	284-285
cost-new <i>v.</i> cost-less-depreciation.....	368-369
equally efficient plant.....	75
fair value for rate purposes.....	30-31
franchise value in rate case.....	593-594
going concern in rate cases.....	468-470
overhead charges.....	220-221
rate of return.....	659-660, 690-691
Location, favorable:	
see FAVORABLE LOCATION	
Loring, Judge:	
franchise value in purchase cases.....	580
going concern in public purchase.....	450-451
overhead charges.....	252
Losses:	
see CAPITALIZATION; COMPETITION; GOING CONCERN	

Louisville, Ky., telephone rate case:	PAGE
actual cost as element of value.....	84-85
annual depreciation allowance.....	415, 434-435
franchise value.....	620-621
going concern.....	485-486
working capital.....	301-302
Lurton, Justice:	
annual depreciation allowance.....	404-406
going concern in purchase cases.....	463
rate of return.....	672

M

McCormick, Circuit Judge:	
adaptation and solidification of road-bed.....	317-318
going concern in rate cases.....	466-467
value as a going business concern.....	59-62
McDonnell:	
payment over mains.....	154-155
Machinery:	
see SECOND-HAND MACHINERY	
McLean, Commissioner:	
idle telephone plant.....	1014-1015
McPherson, Judge Smith:	
criticizes and rejects reproduction method.....	970-972
going concern in rate cases.....	481-482, 1221-1223
pavement over mains.....	156
rate of return.....	671, 685-686
value for tax and rate purposes.....	12-13
working capital.....	1091
Madison, Wis.:	
see TABLE OF CASES	
Maine Supreme Court:	
betterments from earnings.....	181-182
condemnation cases, rules for appraisers.....	713-720
equally efficient plant.....	73-75
franchise value in purchase cases.....	583-588
going concern.....	457-460
overhead charges.....	253
rate of return.....	658
unit prices.....	206
Mains:	
see PAVEMENT OVER MAINS	
Maintenance:	
deferred, definition.....	350
physical depreciation.....	337
Maintenance accounts:	
annual depreciation allowance.....	410, 413
certain renewals included.....	403-406, 410

Maltbie, Commissioner:	PAGE
actual cost the standard of value for rate purposes.....	96-97
adaptation of street railway.....	322-323
annual depreciation allowance.....	406-407
appreciation treated as income.....	120-123
bond discount.....	271-272
capitalization of profits, lighting contract.....	1350-1352
cost-new <i>v.</i> cost-less-depreciation.....	379-380
franchise value in rate cases.....	624-625
functional depreciation.....	388, 397-398
future expenditures.....	1020-1021
going concern as created income.....	514-515
going concern in rate cases.....	490-495
going concern, Wisconsin Railroad Commission rule.....	549-550
grade separation contributions.....	168
land acquired in advance of present need.....	195-197
overhead charges.....	230-232, 258-259, 262, 1049-1051, 1052, 1053, 1054-1055
pavement over mains.....	156-159
property constructed out of surplus.....	187
rate of return.....	687, 700-702, 706
standard of value in rate case.....	278
valuation of old and little-used gas plant.....	1006-1007
working capital.....	296-298
Market value:	
and earning power as related to fair value for rate purposes	Chap. III, 893-897
competition and monopoly value in railroad appraisals.....	893-894
competition in its relation to.....	51-52
contractor's profit.....	252
density of population and traffic.....	43, 47, 49
elements of fair value.....	25-26
facilities for doing business.....	44
favorable location.....	52-53, 59-61
franchises, affected by rate regulation.....	645
grade of railroad.....	44-45
Grafton county electricity case.....	894-897
impracticable as standard.....	58-59
income under reasonable rates determines.....	53
investment value.....	50-51
land appraisal, sales method.....	144, 146-147
location of railroad.....	46-47
Metropolitan Trust Co. <i>v.</i> H. & T. C. R. Co.....	59-62
Minnesota rate cases.....	893
misplaced or partially obsolete plant.....	55-58, 894
Missouri rate cases.....	893-894
monopoly value.....	53-54
physical value basis for.....	43-45, 46
purchase price as evidence of fair value.....	894-897
railroad valuation.....	42-50
rates and competing railroads.....	893-894
Reagan <i>v.</i> Farmers' L. & T. Co.....	58
reasonable rates not based on.....	54-55
Riggs, Henry Earle, statement of theory.....	50-51
standard for rate purposes.....	Chap. III, 41-65, 40

Market value—Continued	PAGE
tax purposes standard.....	63-65
true standard.....	58
usual meaning of.....	41-42
value as going business concern.....	59-62
value as a producing factor.....	62-63
value for tax and rate purposes.....	7, 9, 10
versus cost as measure of going concern value.....	560-561
Washington Railroad Commission.....	45-50
Washington valuation statute.....	48
<i>see also</i> GOING CONCERN	
Marks, William:	
functional depreciation.....	389
overhead charges.....	230
Marshall, Judge:	
franchise value in waterworks purchase case.....	1297
going concern in waterworks purchase case.....	1213
Marston, A.:	
pavement over mains.....	154
Maryland Public Service Commission:	
accrued depreciation.....	1152-1153
allowance for early losses from competition.....	1233-1234
annual depreciation allowance.....	1192-1193
bond discount in systems of uniform accounts.....	270
cost of pavement not laid by company.....	976-977
franchise value in rate cases, tax assessments.....	1305-1306
land at market value in rate case.....	963
rate of return, Baltimore gas and electricity case.....	1335-1337
rate of return, relation of rates to service.....	1324-1325
rate of return, sliding-scale method recommended.....	1322-1323
restricted by law not to disturb value of bonds.....	881-882
Massachusetts:	
discount on bonds in uniform system of accounts.....	269
Gloucester water plant purchase, going concern in public purchase.....	449-450
grade separation contributions.....	167
statute for municipal lighting plants.....	423-424
telephone appraisal, annual depreciation allowance.....	431-433
Massachusetts Board of Gas and Electric Light Commissioners:	
bond discount.....	272-273
franchise value in rate cases.....	1306
gas plant too large for present needs.....	1015-1017
going concern in gas rate case.....	1234
Holyoke, Mass., purchase case, cost-new <i>v.</i> cost-less-depreciation.....	385-387
valuation of property constructed out of surplus.....	178-179
Massachusetts Railroad Commission:	
bond discount.....	273
working capital.....	288-289
Massachusetts Supreme Court:	
franchise value in purchase cases, water plant.....	579-580
Gloucester water plant purchase, going concern.....	450-451

Massachusetts Supreme Court—Continued	PAGE
Holyoke gas and electric plant purchase, going concern.	451-452
Newburyport water plant case, going concern in public purchase	448-449
Massachusetts Validation Board:	
cost-new <i>v.</i> cost-less-depreciation.	363-364
overhead charges.	223-226, 239-240, 261
solidification of roadbed.	315-317, 326
valuation dependent on purpose.	5-6
Masten, Arthur H.:	
franchise value in rate cases.	596-598
functional depreciation.	388-389
going concern in rate cases.	470-472
overhead charges.	229-230
working capital.	294-295
Maury, D. H.:	
going concern as created income.	511-512
Memphis, Tenn.:	
water plant appraisal.	226-227
Metcalf, Leonard:	
cost under present or original conditions.	79
going concern as value of a created income.	501-502, 506
Methods of appraisal:	
see APPRAISAL METHODS	
Michigan railroad appraisal:	
adaptation and solidification.	312, 313-314
bond discount.	276
franchise value.	631-635
land appraisal methods.	144
overhead charges.	227, 241-243, 260
reproduction cost, right of way.	127-128
reproduction cost, terminal land.	134
unit prices.	204-205
Michigan Railroad Commission:	
brokerage.	1085-1086
going concern in electricity capitalization case.	1234-1237
land at initial cost, with certain additions.	963-966
overhead charges.	1073-1074
Miller, Judge:	
annual increase in land value not income.	946
going concern in gas rate case.	1255-1265
reproduction cost of pavements over mains.	981-983
Milwaukee:	
street railway fare case, functional depreciation.	394-395
Minneapolis:	
grade separation contributions.	167-168
railroad case, rate of return.	694-695
valuation of terminal land.	135-136

Minnesota Railroad and Warehouse Commission:	PAGE
adaptation and solidification.....	310-311, 326
railroad appraisal, overhead charges.....	228
reproduction cost, right of way.....	129-130
reproduction cost, terminal land.....	135
Minnesota railroad appraisal:	
bond discount.....	276
land appraisal methods.....	144, 145
overhead charges.....	241, 260
reproduction cost of terminal land.....	134, 135-137
unit prices.....	205
Minnesota railroad rate case:	
adaptation and solidification.....	319-320
discount on bonds.....	285-286
land appraisal.....	146-147
overhead charges.....	254-255
railroad right of way.....	112
valuation for rate purposes.....	67-69
Minnesota rate cases:	
artificial rules rejected.....	849
cost-of-reproduction-less-depreciation.....	850
fair value the basis.....	849
market value approved basis for land value.....	935-936, 949-955
present value of land, not original cost.....	850
proof of value must be clear to establish confiscation.....	851-852
reproduction-cost method rejected as to land.....	949-955
Minnesota Supreme Court:	
property donated, railroad grants.....	163
purchase price at foreclosure sale.....	933-934
railroad rate cases.....	67-68
rate of return.....	651-653
reduced return allowed on terminal.....	115-119
Steenerson railroad rate case.....	67-68, 115-118
Missouri:	
railroad rate case.....	11-13
Trenton waterworks.....	154-155
Missouri rate cases:	
competition and monopoly value in railroad appraisals.....	893-894
confiscation, proof of, must be clear.....	851-852
Missouri Supreme Court:	
annual depreciation allowance.....	435-436
franchise value, telephone rate case.....	621-622
rate of return, telephone rate case.....	684
Mitchell, Chief Justice:	
rate of return.....	662-663
Monopoly value:	
discussion.....	53-54
going concern, Wisconsin Railroad Commission rule.....	525
good will in valuation.....	555-556, 557-558
Montana Board of Railroad Commissioners:	
railroad rates fixed by, enjoined by Federal Court.....	957-958

Moody, Justice:	PAGE
annual depreciation allowance.....	439
cost-new <i>v.</i> cost-less-depreciation.....	372-374
functional depreciation.....	396-397
going concern in rate cases.....	474-475
overhead charges.....	263
rate of return.....	669, 688
responsibility of regulatory commissions.....	695-696
Moore, Robert:	
going concern in purchase cases.....	445-446
Morgan, Dwight C.:	
adaptation and solidification.....	310-311
land appraisal methods.....	145
overhead charges.....	228, 241, 255
reproduction cost, right of way.....	129
reproduction cost, terminal land.....	135-136
unit prices.....	205
Morris, Judge:	
annual depreciation allowance.....	407-409
rate of return.....	684-685
Morrow, Circuit Judge:	
annual depreciation allowance.....	430-431
cost-new <i>v.</i> cost-less-depreciation.....	371-372
fair value for rate purposes.....	28-29
franchise value in rate cases.....	592-593, 622-623
going concern in gas and electricity case.....	1225
overhead charges in gas and electricity case.....	1034-1035
property donated, canal and irrigation.....	164
rate of return.....	655-656, 657-658
solidification of earthwork.....	321-322
value for rate and purchase purposes.....	16
Moyes, John W.:	
definition of unit costs.....	1024
depreciation of overhead charges.....	1117
Munger, District Judge W. H.:	
bond discount.....	285
franchise value in rate cases.....	612
rate of return.....	671
working capital.....	301
Municipal purchase:	
see PUBLIC PURCHASE	

N

National Association of Railway Commissioners:	
appreciation in land value.....	109-110
bond discount.....	276-277
capital value and rate and purchase value.....	17
market value theory.....	42-45
misplaced or partially obsolete plant.....	56-57
recommend the use of the word "amount" for "value".....	855-856
valuation dependent on purpose.....	4-5
value for rate and purchase purposes.....	14-15
value for tax and rate purposes.....	7

Nebraska:	PAGE
Smyth v. Ames case.....	24-26
Union Pacific Railway cases.....	19-21
Nebraska State Railway Commission:	
annual depreciation allowance.....	1185-1186, 1193-1196
excess capacity of telephone plant.....	1017-1018
franchise value in rate cases.....	1304-1305
functional depreciation.....	1179-1180
going concern in telephone rate case.....	1237-1238
overhead charges, telephone case.....	1045-1046
rate of return.....	681-682, 1337-1339
reproduction cost, telephone rate case.....	900-904
stocks and bonds have only collateral weight in rate cases....	887-888
working capital.....	1096-1097
Nebraska Supreme Court:	
value for tax and rate purposes.....	10-11
Nevada Public Service Commission:	
annual depreciation allowance.....	1196-1197
fair value based on estimated cost-of-reproduction-new.....	912-913
going concern in electricity rate case.....	1238-1239
rate of return, electricity case.....	1340-1341
unnecessarily large plant.....	1018-1019
water-power contract.....	1356-1357
Net cost:	
see ACTUAL COST	
Net earnings rule:	
definition.....	636
New Hampshire Public Service Commission:	
accrued depreciation.....	1153-1154
actual cost as basis for fair value for rate purposes.....	919-920
actual cost of establishing a paying business.....	1239-1244
appreciation an offset to development expense.....	944-945
auxiliary steam plant.....	1012-1013
capitalization of early losses not allowed.....	1245
criticism of reproduction method.....	914-915
manufacturers' quotations.....	1025
misplaced or partially obsolete plant.....	894
original cost, among other elements, to have great weight....	920-923
overhead charges.....	1042-1043, 1072-1073
purchase price as evidence of fair value.....	894-897
valuation for tax and for rate purposes not the same.....	807-808
water powers.....	1357-1361
New Jersey:	
railroad appraisal, solidification of road-bed.....	1110-1111
reevaluation of railroads and canals for tax purposes.....	1110
New Jersey Court of Chancery:	
excessive investment in plant.....	200-201
overhead charges.....	253
rate of return.....	658-659
New Jersey Public Utility Commission:	
annual depreciation allowance.....	1197-1198
cost-new v. cost-less-depreciation.....	369-371

New Jersey Public Utility Commission—<i>Continued</i>	PAGE
distinction between actual and theoretical depreciation.....	1154-1161
franchise value in rate cases.....	1306-1308
going concern in gas rate case.....	1245-1249
going concern in telephone rate case.....	1251-1253
overhead charges.....	228-229, 969, 1046-1048
property donated.....	992-993
rate of return.....	1341-1342
repaving cost, gas and telephone rate cases.....	977-978
reproduction cost.....	911-912, 968
working capital.....	1097
New Jersey Supreme Court:	
franchise value in rate cases.....	1308-1312
going concern in gas rate case.....	1249-1251
valuation for rate and for purchase purposes distinguished....	805-806
New York Appellate Division:	
annual increase in land value not income.....	945-946
franchise value, earning power at reasonable rates.....	1292-1293
Kings County Lighting Company case.....	980-981
Queens County Water Company case.....	983
New York City:	
grade separation contributions.....	167
special franchise tax.....	302-303, 635-639
street railway tax case.....	424-426
subway contract.....	275
water plant condemnation, franchise value.....	573-575
<i>see also</i> Table of Cases, under Consolidated Gas Company and under Willcox	
New York Commission of Gas and Electricity:	
Consolidated Gas case.....	594-595, 665-666
rate of return.....	661-662
New York Court of Appeals:	
annual increase in land value not income.....	945-946
reproduction cost of pavement over mains rejected.....	981-983
New York Public Service Commission, 1st District:	
actual cost the standard of value for rate purposes.....	96-97
actual cost under construction contract.....	932-933
adaptation.....	322-325
annual depreciation allowance.....	406-407, 413-415, 426-427
appreciation treated as income.....	120-123
betterments from earnings.....	186-187
bond discount.....	269, 271-272, 275
cost-new <i>v.</i> cost-less-depreciation.....	376-380
franchise value in rate cases.....	623-625
functional depreciation.....	388, 397-398
going concern as created income.....	514-515
going concern in purchase cases.....	1253
going concern in rate cases.....	490-495, 1253
going concern, Wisconsin Railroad Commission rule.....	549-550
grade separation contributions.....	168
municipal lighting contract.....	1350-1352
old and little-used gas plant.....	1006-1007
overhead charges.....	230-232, 248-251, 258-260, 262, 266-267, 354-355, 1048-1058

New York Public Service Commission, 1st District—Continued	PAGE
pavement over mains	156-159
pavement, street railway	174
physical depreciation, overhead charges	354-355
physical depreciation, sinking fund method of measuring	346-348
physical depreciation, straight line method of measuring	348-351
rate of return	686-687, 700-702, 706
repairs, extensions, additions, gas and electricity plants	1019-1021
reproduction cost affected by cost of hypothetical buildings	141-143
unit prices	206
unused property	195-197
valuation of pavement	174
working capital	296-298
<i>see also</i> MALTBIE, COMMISSIONER	
New York Public Service Commission, 2d District:	
accrued depreciation	1164-1165
annual depreciation allowance	1198-1200
contract for water-generated electricity	1362-1365
definition and theory of value	809-815
depreciation	1115
difficulties of the actual-cost method	929-931
discount on bonds	1086
distinction between land and other property	946-947
fair value for rate purposes	867-871
franchise value in rate cases	1312-1313
gas plant purchased to avoid competition	1007-1010
going value to be allowed in rate of return	1265-1270
legal and organization expenses	1067-1068
overcapitalization not considered in fair value for rates	885-887
overhead charges	264-265, 1055-1060
piecemeal construction	1105-1106
rate of return	1342-1345
reproduction-cost method	904-911
reproduction cost of pavements over mains	979-980
services paid for by consumers, gas case	993
unused land	1010-1011
value for rate and for purchase purposes distinguished	804-805
working capital	289, 1097-1100
New York State:	
grade separation contributions	167
railroad tax case	320
Normal cost:	
standard necessary for the future	839-840
Normal wear:	
definition	350
North Carolina Corporation Commission:	
value as a producing factor	62-63

O

Obsolescence:	
definition	349
<i>see also</i> FUNCTIONAL DEPRECIATION	

Oklahoma, railroad rate case:	PAGE
adaptation of road-bed.....	318
going concern.....	479-480
Oklahoma Corporation Commission:	
annual depreciation allowance.....	1200-1202
contract for rental of telephone instruments.....	1366-1367
cost-new <i>v.</i> cost-less-depreciation.....	375-376
going concern.....	486-488
overhead charges, casualty insurance.....	1069
rate of return.....	674-675
Oklahoma Supreme Court, telephone rate case:	
annual depreciation allowance.....	433-434
cost-new <i>v.</i> cost-less-depreciation.....	375-376
going concern.....	486-488
overhead charges.....	232, 245, 255-256
piecemeal construction.....	306-308
rate of return.....	674-675
Omaha, Nebr.:	
water plant purchase, going concern.....	462-463
Omberg, J. A., Jr.:	
Memphis water plant appraisal.....	226-227
Operating efficiency:	
definition.....	332
Operation, trial:	
<i>see</i> ADAPTATION; EXPERIMENTAL OPERATION	
Opinion, Expert:	
<i>see</i> EXPERT OPINION	
Organization expenses:	
Buffalo gas rate case.....	1058-1060
Cedar Rapids gas case.....	212, 262
Chicago gas plant appraisal.....	218
Chicago street railway appraisal.....	214
Cleveland street railway appraisal.....	219, 220
depreciation of overhead charges.....	356
going concern in rate cases.....	491
Lincoln, Nebr., gas rate case.....	223
Michigan railroad appraisal.....	227
overhead charges.....	210, 261-267
St. Louis Public Service Commission.....	263
Seattle telephone rate case.....	236
Wisconsin railroad appraisal.....	237
Wisconsin Railroad Commission.....	238
<i>see also</i> LEGAL EXPENSES	
Original cost:	
<i>see</i> ACTUAL COST	
Original service value:	
definition.....	349
Orton, Jesse F.:	
Consolidated Gas case.....	612

	PAGE
Otis, Judge Charles E.:	
bond discount.....	285-286
grade separation contributions.....	167-168
land appraisal methods.....	146-147
reproduction cost, right of way.....	130
reproduction cost, terminal land.....	135-137
Overcapitalization.....	323, 324
Overhead charges.....	Chap. XII, 209-267, 1031-1074
Arizona Corporation Commission.....	1033-1035
Buffalo General Electric case.....	1058-1060
California Railroad Commission.....	1035-1037
casualty insurance.....	1069
Chicago gas plant appraisal.....	217-218
Chicago surface railway appraisal.....	213-217
Chicago telephone appraisal.....	1037-1038
Cleveland street railway appraisal.....	218-220
Columbus, Ohio, electricity rate case.....	220-221
Commonwealth Edison appraisal.....	1038-1039
contractor's profit.....	246-252, 1051-1055, 1071-1073
Cumberland Telephone and Telegraph Company.....	212-213
definition.....	210
depreciation of.....	353-356, 1112-1117
Des Moines water rate case.....	221-222
Falmouth, Mass., water plant.....	251-252
going concern in rate cases.....	491
interest during construction.....	253-261, 1073
inventory-reproduction-cost.....	1032-1033, 1037-1042, 1046-1048, 1060, 1063-1067
Kansas City street railway appraisal.....	1043-1045
legal expenses.....	262, 1067-1068
Lincoln, Nebr., gas rate case.....	222-223
Lincoln, Nebr., telephone rate case.....	1045-1046
Massachusetts Validation Board.....	223-226, 239-240, 243-244, 261
Memphis water plant appraisal.....	226-227
Michigan Railroad Commission.....	1073-1074
Michigan railroad appraisal.....	227, 241-243, 260
Milwaukee gas rate case.....	1065-1067
Milwaukee street railway rate case.....	1063-1065
Minnesota railroad appraisal.....	228, 254, 260
Minnesota rate cases.....	949-955
Montana, Wyoming and Southern Railroad case.....	1032-1033
National Telephone purchase case (Great Britain).....	1039-1042
Nebraska State Railway Commission.....	1045-1046
New Hampshire Public Service Commission.....	1042-1043, 1072-1073
New Jersey Public Utility Commission.....	228-229, 1046-1048
new railway constructed by contract.....	1048-1051
New York and South Shore Traction case.....	1048-1051
New York Consolidated Gas case.....	229-230
New York Public Service Commission, 1st District.....	230-232, 248-251, 258-260, 262, 266-267, 1048-1058
New York Public Service Commission, 2d District.....	264-265, 1058-1060
New York Supreme Court.....	253-254
Oklahoma Corporation Commission.....	1069
Oklahoma telephone rate case.....	232, 245, 255-256

Overhead charges—Continued

	PAGE
organization.....	261-267, 1067-1068
Oshkosh waterworks purchase case.....	1067
Palo Alto gas case.....	1035-1036
Phoenix gas and electricity case.....	1034
preliminary and development expenses.....	1055-1058
promotion.....	261-267, 1073-1074
Railway and Canal Commission of Great Britain.....	1039-1043, 1069-1072, 1073
reorganization expense.....	1068-1069
reproduction cost.....	628
St. Louis Public Service Commission.....	244-245, 247-248, 257- 258, 263-264, 1060-1061
Seattle telephone rate case.....	235-237
South Dakota railroad appraisal.....	232-233, 261
State railroad appraisals.....	260-261
Stockton Terminal and Eastern Railroad case.....	1036
Toronto street railway and electric light appraisals.....	1061-1063
Tucson gas and electricity case.....	1034-1035
Washington Railroad Commission.....	233-235, 261
Wisconsin railroad appraisal (Tax Comn.).....	237-238, 260
Wisconsin Railroad Commission.....	238-239, 246, 256-257, 1063- 1067, 1068

see also CONTINGENCIES; DEPRECIATION; ENGINEERING; GENERAL
EXPENSES; INTEREST DURING CONSTRUCTION; LEGAL EXPENSES;
ORGANIZATION EXPENSES; SUPERINTENDENCE

P**Palmer, Ray:**

annual depreciation allowance.....	1192
bond discount.....	1076
depreciation.....	1116
franchise value in rate cases.....	1303-1304
going concern, electric light case.....	1229-1231
overhead charges.....	1038-1039
rate of return.....	1323-1324, 1334-1335
working capital.....	1034-1036

Pardee, Judge:

rate of return.....	656
---------------------	-----

Pavement:

electric railway.....	172-174, 219
-----------------------	--------------

Pavement over mains.....Chap. VII, 148-160, 970-989

appreciation in land value.....	158
Cambridge water case.....	976-977
Cedar Rapids gas case.....	150-151
Consolidated Gas case.....	148-150
Des Moines gas case.....	970-972
Des Moines water rate case.....	155-156
New Jersey gas and telephone rate cases.....	977-978
New York Appellate Division.....	980-981, 983
New York Court of Appeals.....	981-983
New York Public Service Commission, 1st District.....	156-159
New York Public Service Commission, 2d District.....	979-980

Pavement over mains—Continued	PAGE
Palo Alto gas case, repaving.....	973
purchase cases.....	153-154
rate cases.....	151-153
repaving cost excluded.....	973
reproduction method rejected and criticized.....	970-972
San José telephone rate case.....	973-975
special franchise tax case.....	983
summary and conclusion.....	159-160
Trenton, Mo., waterworks.....	154-155
Union City natural-gas case.....	975-976
United States Supreme Court.....	149-150
Wisconsin Railroad Commission.....	151-154, 983-985, 985-989
Wisconsin Supreme Court.....	986-989
Parson, Judge:	
franchise value in purchase cases.....	572-573
Peckham, Justice:	
appreciation in land value.....	108
cost-new <i>v.</i> cost-less-depreciation.....	362-363
cost of reproduction standard.....	70
fair value includes appreciation.....	31
fair value for rate purposes.....	29
franchise value in rate cases.....	606-610
functional depreciation.....	391-392
going concern in rate cases.....	473-474
going concern value theory.....	556-557
rate of return.....	661, 667-669
valuation of property constructed out of surplus.....	177
Pence, William D.:	
land appraisal, sales method.....	144-145
unit prices.....	202
Pennsylvania Supreme Court:	
actual cost the standard of value for rate purposes.....	93-94
franchise value in purchase cases, water plant.....	589-590
franchise value, toll bridge condemnation case.....	572-573
going concern, water plant purchase.....	460-462
property constructed out of surplus.....	180-181
rate of return, railroad case.....	662-663
Philadelphia:	
grade separation contributions.....	167
Physical adaptation:	
see ADAPTATION	
Physical depreciation:	
see DEPRECIATION	
Physical value:	
see VALUE	
Piecemeal construction.....	Chap. XV, 304-309, 1105-1107
allowance for, denied.....	306-308
cost compared with continuous construction.....	304-305
New York Public Service Commission, 2d District.....	1105-1106

- Piecemeal construction—Continued** **PAGE**
- Oklahoma Supreme Court.....306-308
 - Oklahoma telephone rate case.....232
 - overhead charges.....218
 - Railway and Canal Commission of Great Britain.....1106-1107
 - relation to inadequacy.....308-309
 - Wisconsin Railroad Commission.....304-306
- Pipes, gas:**
- pavement over mains.....148-160
- Pitney, Justice:**
- functional depreciation.....1172-1177
- Poffenbarger, Judge:**
- actual cost the standard of value for rate purposes.....94-95
- Preliminary expenses:**
- New York Public Service Commission, 1st District..231, 262,
266-267, 1055-1058
 - New York Public Service Commission, 2d District.....1058-1060
- Present cost:**
- valuation of mains and services.....149
- Present price:**
- see* UNIT PRICES
- Present value:**
- basis of valuation.....22-23, 62-63
 - capitalization and original cost not represented by.....20
 - definitions.....332, 351
 - element in determining depreciation.....347
 - fair value for rate purposes.....29
 - fair value of tangible and intangible property.....30-31
 - physical valuation as basis for.....50-51
 - value for rate purposes.....36
 - see also* ACTUAL COST; FAIR VALUE; REPRODUCTION-COST-LESS-
DEPRECIATION
- Price, Waterhouse and Company:**
- overhead charges.....224
- Prices:**
- fluctuation in cost.....87-89
 - fluctuations in railroad costs.....67-69
 - see also* UNIT PRICES
- Profit:**
- see* CONTRACTOR'S PROFIT
- Promotion:**
- Cedar Rapids gas case.....212, 262
 - Knoxville water case.....262-263
 - New York Public Service Commission, 1st District....262, 266-267
 - New York Public Service Commission, 2d District.....264-265
 - overhead charges.....210, 261-267, 1073-1074
 - St. Louis Public Service Commission.....263-264
- Promotion expenses:**
- amortization of.....269-270

- Promotion expenses—Continued** PAGE
- depreciation of overhead charges..... 356
 - determination in rate case..... 5
 - going concern in rate cases..... 491
 - going concern value..... 565-566, 567
 - going concern, Wisconsin Railroad Commission rule..... 542-543
- Property:**
- see* DISCARDED PROPERTY; UNUSED PROPERTY
- Property constructed out of surplus.....** Chap. IX, 176-189, 997-1004
- see also* BETTERMENTS FROM EARNINGS; PROPERTY DONATED; SURPLUS
- Property donated.....** Chap. VIII, 161-175, 990-996
- appliances loaned to consumers..... 990
 - contributions by the company..... 171-174
 - gas and electric company, Arizona Corporation Commission..... 990
 - gas and electric company, Wisconsin Railroad Commission..... 166
 - grade separation, state and city aid..... 167-170
 - gratuitous pole locations, New Jersey Commission..... 992-993
 - irrigation water rates, fences excluded..... 163-164
 - most equitable rule as to..... 174-175
 - New York Public Service Commission, 2d District..... 993
 - railroad land, California Commission..... 991-992
 - railroad land, Minnesota..... 69
 - railroad land, Minnesota Supreme Court..... 163
 - railroad land, South Dakota..... 111
 - railroad land, state railroad appraisals..... 161-162
 - railroad land, Washington..... 113
 - services furnished by consumers..... 167, 993
 - statement of problem..... 170-171
 - telephone services, Wisconsin Railroad Commission..... 165
 - water services, California Supreme Court..... 163
 - water services in purchase case..... 995-996
 - waterworks, Wisconsin Railroad Commission..... 165-166
- Prouty, Interstate Commerce Commissioner:**
- determination of standard of value..... 38-39
 - inflation of securities..... 877-878
 - property constructed out of surplus..... 182-186
 - rate of return..... 670
- Public purchase:**
- bond discount..... 274, 277
 - Chicago surface railway..... 215-217
 - Cleveland street railway appraisal..... 218-220
 - contractor's profit, Falmouth, Mass., water plant..... 251-252
 - cost *v.* cost-less-depreciation..... 357-358
 - deduction for depreciation..... 402
 - distinction between value for, and value for rate purpose..... 468
 - franchise value theory..... 642-643, 645-646
 - functional depreciation in valuation for..... 384-387
 - going concern as created income..... 509-510, 511-512
 - going concern value theory..... 567-569
 - going concern, Wisconsin Railroad Commission rule.. 520-522,
537-539, 545, 546, 547, 548
 - Memphis water plant appraisal..... 226-227

Public purchase—Continued	PAGE
no distinction between condemnation and rate regulation	592-593
overhead charges, water plant	253
overhead charges, Wisconsin Railroad Commission	238
profits in excess of fair return	181-182
rate of return	676
relation between franchise and going concern	553-554
relation of rate of return and fair value	649-650
rules for appraisers	713-720
Trenton, Mo., waterworks	154-155
unit prices	203
valuation for	1-2, 11-12
<i>see also</i> FRANCHISE VALUE; GOING CONCERN	
Puget Sound Electric Railway:	
valuation	46-48
Purchase:	
<i>see</i> PUBLIC PURCHASE	
Purpose of taxation:	
Nebraska Supreme Court	10-11
St. Louis & S. F. R. Co. rate case	11-13
Purpose of valuation	Chap. I, 1-17, 799-815
Arkansas Railroad rate case	13
California Railroad Commission	800-804
capital value and rate and purchase value	16-17
Commissioner Thelen, National Association of Railway Com- missioners	802-803
cost of production, how based	800
depreciation dependent on	330-331
distinction between rate and purchase value	21
exchange value, or purchasing power	799
law unsettled as to fair value	802-803
Massachusetts Validation Board	5-6
National Association of Railway Commissioners	4-5
normal value, or cost of production	799
public purchase	1-2
rate and purchase cases	58
rate purposes	2-3, 497
theories of value, New York Public Service Commission, 2d District	809-815
valuation dependent on purpose	2-6
value dependent on	800
value, different meanings of term	799-804
value for rate purpose and public purchase	14-16, 20
value for tax and rate purposes	7-14
value for various purposes distinguished	804-809
value in use, or inherent utility	799

Q

Quebec Public Utilities Commission:	
capitalization of franchise value	1293-1295

R

Railroad Securities Commission:	PAGE
bond discount.....	271
Railroads:	
accrued depreciation.....	1143-1146
actual cost as standard of value for rate purposes.....	94-95, 97-101
adaptation and solidification.....	310-320, 325-328, 1108-1111
annual depreciation allowance.....	1187-1188, 1204-1205
appraisal of franchise value.....	631-635, 636-637
appreciation in value.....	103, 108-111, 112-114, 115-119, 138-141
bond discount.....	271, 273, 275-277, 285-286, 1075-1076
competition, effect on rates.....	183
competition, factor in regulating rates.....	51-52
cost-new v. cost-less-depreciation.....	363-364
depreciation, bibliography.....	741-742
depreciation, straight-line method of measuring.....	333-334
excessive valuation or fictitious capitalization.....	24-25
fair value for rate purposes.....	38-39
fluctuations in costs.....	67-69
franchise value appraisal.....	1317-1321
franchise value in purchase cases.....	578
franchise value in rate cases.....	613-615, 625-626, 1298-1302
functional depreciation.....	392-393, 1170-1177
going concern as created income.....	507-508
going concern in public purchase.....	446-448
going concern in rate cases.....	466-467, 478-480, 1218-1220
going concern, Wisconsin Railroad Commission rule.....	520-521
grade separation contributions.....	167-170
land appraisal methods.....	144-147, 949-955
land donated.....	991-992
land grants.....	69, 161-163, 170-171
market value as standard for tax purposes.....	63-65
market value theory.....	42-53
misplaced or partially obsolete plant.....	56
no hard and fast rule of valuation.....	19-21
overhead charges:	
California Railroad Commission.....	1036
contingencies.....	240-244
Massachusetts Validation Board.....	225-226, 239, 261
Michigan appraisal.....	227, 260
Minnesota appraisal.....	228, 260
Minnesota rate cases.....	949-955
Montana Board of Railroad Commissioners.....	1032-1033
New York Supreme Court.....	253-254
South Dakota appraisal.....	232-233, 261
Washington Railroad Commission.....	233-235, 261
Wisconsin appraisal.....	237-238, 260
physical depreciation:	
annual allowance for.....	344-346
methods of measuring.....	339-341
overhead charges.....	354-355
present worth method applied to system as a whole....	340-341
property constructed out of surplus.....	182-186
rate of return..	650, 656, 662-665, 670-671, 677-679, 680-681, 691, 711, 1326-1327

- Railroads—Continued** PAGE
- reproduction cost, right of way 126-134
 - reproduction cost, terminal land 134-141
 - strategic location of 44-45
 - unit prices 202-203, 204-205
 - valuation, bibliography 725-728
 - valuation bill, report of United States Senate Committee . . . 852-855
 - valuation for tax and rate purposes 2-3, 7-8, 10-17
 - value as a going business concern 59-62
 - value as a producing factor 62-63
 - value of partially obsolete line 43-44
 - Washington valuation statute 49
 - working capital 1090-1091
- see also* FAVORABLE LOCATION; PROPERTY DONATED
- Rails:**
- present worth method of measuring depreciation 339-340
- Railway and Canal Commission of Great Britain:**
- brokerage, telephone purchase case 1076-1083
 - depreciation, telephone purchase case 1110-1115
 - franchise value in telephone purchase case 1292
 - going concern in telephone purchase case 1206-1208
 - overhead charges 1069-1070, 1071-1072, 1073
 - piecemeal construction and separate establishment 1106-1107
- Railway terminal:**
- see* TERMINAL LAND
- Rapid transit railways:**
- see* ELECTRIC RAILWAYS; TUNNELS
- Rate making:**
- development of valuation for 2-3
 - fair value for 5
 - valuation for 1
- Rate of return Chap. XXX, 647-712, 1322-1349**
- adequate to construct betterments 184-189
 - Alabama railroad rate cases 1326-1327
 - appraisal of franchise value 636
 - appreciation treated as income 120-126
 - Arkansas Supreme Court, electricity rate case 683-684
 - attitude of courts and commissions contrasted 690
 - Baltimore gas and electricity case 1335-1337
 - Beatrice telephone case 1339
 - Buffalo gas case 1342-1344
 - California Supreme Court 651, 691-693
 - Cataract Power and Conduit Company case 1344-1345
 - Central of Georgia Railway Company 663-665
 - Chicago gas rate report 675-677
 - Chicago telephone appraisal 1331-1334
 - Columbus, Ohio, electricity rates 659-660, 690-691
 - Commonwealth Edison report, Chicago 1334-1335
 - conclusion 708-710
 - Consolidated Gas case, Judge Hough's decision 666-667
 - Consolidated Gas case, State Commission's decision 665-666
 - Consolidated Gas case, United States Supreme Court decision . 667-669

Rate of return—Continued

	PAGE
Cumberland telephone case.....	1325-1326
decisions affecting rate of return.....	1325-1349
Delaware and Atlantic telephone case.....	1342
Des Moines water rate case.....	685-686
determines market value.....	55
distinction between fair return in an administrative and judicial sense.....	690-691
effect of method of financing.....	569-570
elements of a reasonable return.....	696-700
Ely electricity case, Nevada Commission.....	1340-1341
establishing business.....	563
excessive investment.....	199
extraordinary supersession.....	391, 392
failure to earn some profit.....	20-21
federal and state courts, review of attitude of.....	689
franchise value theory.....	644
franchises.....	672
going concern, discussion.....	490-494
going concern value theory.....	567
going concern, Wisconsin Railroad Commission rule.....	533-534
Grafton telephone case.....	1339
Green Bay water case.....	1349
Interstate Commerce Commission.....	670
investment as basis for.....	384
Iowa Supreme Court, gas rate case.....	673-674
Iowa Supreme Court, waterworks.....	654-655
irrigation plant.....	656-657
Lexington telephone case.....	1339
Lincoln, Nebr., telephone case.....	1337-1339
Louisville railroad case.....	691
Maine Supreme Court.....	658
Milwaukee electricity case.....	1345-1347
Minneapolis, railroad case.....	694-695
Minnesota Supreme Court.....	651-653
Missouri Supreme Court, telephone rate case.....	684
Montreal telephone case.....	1331
Nebraska State Railway Commission.....	681-682
net earnings basis.....	654
New Jersey Court of Chancery.....	658-659
New York Court of Appeals, tax cases.....	672, 686
New York Public Service Commission, 1st District.....	686-687, 700-702, 706
Oklahoma Corporation Commission, telephone case.....	674-675
ordinary method of financing in relation to fair rate.....	700-702
Palo Alto gas case.....	1329-1330
past supersession.....	393
Pennsylvania Supreme Court, railroad case.....	662-663
Phoenix gas and electricity case.....	1326
profits in excess of a fair return.....	176-177, 181-182
property constructed out of surplus.....	176-180
Public Service Gas Company case.....	1341-1342
rate necessary to induce original investment.....	662-663
reasonable rates dependent on circumstances.....	658
reduced rate of return on land.....	114-119
relation of rates to service.....	1324-1325

Rate of return—Continued

	PAGE
relation to fair value for rate and purchase purposes.....	649-650
responsibility of regulatory commissions.....	694-696
San Francisco water rate case... 655-656, 657-658, 665, 682-683, 694	
San Joaquin irrigation case.....	29
Saratoga Springs gas and electric rate case.....	661-662
sliding-scale method of regulating rates.....	710-712
sliding-scale method recommended.....	1322-1323
some margin over lowest interest rate.....	651
standards of reasonableness.....	702-710
Strang telephone case.....	1339
Superior water and electricity case.....	1347-1349
supersession hazard.....	384, 403
surplus should be created to equalize dividends.....	1323-1324
tax case.....	686
Tucson gas and electricity case.....	1328-1329
United States Supreme Court, review of attitude of.....	687-689
Washington Supreme Court, electric railway rate case.....	684-685
Wells, Fargo & Company express case.....	1330-1331
Wisconsin Railroad Commission, gas and electricity plant case	696-700
Wisconsin Railroad Commission, railroad case.....	708

see also REASONABLE RATES

Real estate:

land appraisal, sales method.....	144
-----------------------------------	-----

see also APPRECIATION IN LAND VALUE; LAND

Reasonable rates:

allowance for risks.....	704-705
allowance for risks, appraisal for condemnation.....	714
bond discount.....	285
elements to be considered.....	25-26
fair value as basis, appraisal for condemnation.....	714, 718
fluctuation of standard.....	203
franchise value.....	614, 615
franchise value in purchase cases..... 584, 589-590, 591, 1292-1293	
going concern based on value of estimated income under.....	510-513
going concern in purchase cases.....	462
individual consumer must be served reasonably.....	863-867
market value not based on.....	54-55
method of determining, in purchase cases.....	568
rate of return.....	658
relation of rate of return and fair value to.....	649-650
uniform, depreciation deduction necessary to secure.....	359-360

see also RATE OF RETURN

Reasonable value:

see FAIR VALUE

Regulatory commissions:

see MOODY, JUSTICE

Remaining service value:

definition.....	351
-----------------	-----

Renewals:

see ACCOUNTS, UNIFORM

Repairs:	
definition.....	PAGE 413
Replacement cost:	
see REPRODUCTION COST	
Reproduction cost:	
actual cost used to test reproduction estimate.....	911-912
adaptation and solidification.....	310, 317-318, 328
appraisals for condemnation.....	715, 716
appreciation in land value.....	103-126
approved in Alabama railroad rate cases.....	898-900
arguments advanced.....	66-67
Baltimore gas and electricity case.....	902-904
basis for going concern value.....	560
basis of fair value.....	163, 442
bond discount.....	277, 284, 285
Buffalo gas rate case.....	904-909
Cataract Power and Conduit case.....	909-911
Columbus electricity rate case.....	75
conclusion as to.....	81
Consolidated Gas case.....	105
contingencies.....	245, 246
cost under present or original conditions.....	77-81
criticism by New Hampshire Commission.....	914-915
depreciation.....	331
determination of.....	5
difficulties of the reproduction method:	
Maryland Commission.....	902-904
New York Commission, 2d District.....	904-911
discarded property.....	190
discussion by James E. Allison.....	928-929
discussion by C. L. Corey.....	76-77
discussion by Halbert P. Gillette.....	832
discussion by J. E. Willoughby.....	76, 830
Ely electricity case.....	912-914
equally efficient plant.....	72-77, 445
fair value for rate purposes.....	39
fluctuations in railroad costs.....	67-69
functional depreciation.....	390, 399-400
going concern in purchase cases.....	459
good will value.....	486
Grafton electricity case.....	914-915
identical reproduction of existing plant.....	71-72
interest during construction, New York Supreme Court.....	254
Lincoln, Nebr., telephone rate case.....	900-904
Maine water plant condemnations.....	73-75
method criticized in Des Moines gas case.....	970-972
method rejected as to land, Minnesota rate cases.....	949-955
method rejected in New Jersey railroad tax appraisal.....	966-968
multiples used in state appraisals.....	127-129
overhead charges.....	217, 628, 831, 832-833, 906-907
overhead charges, Memphis water plant appraisal.....	227
overhead charges, Michigan railroad appraisal.....	227
overhead charges, Minnesota railroad appraisal.....	228
past supersession.....	394-395
pavement over mains.....	156-158

Reproduction cost—Continued

PAGE

piecemeal construction.....	308-309, 832
public purchase cases.....	445, 832
Public Service Gas Company case.....	911-912
railroad right of way.....	126-134
rate of return.....	652-653
rejected as standard of value in rate case.....	278
rejected in railway rate case, South Dakota.....	958-960
St. Louis Public Service Commission.....	79-81
solidification.....	312
Spring Valley water rate case (1908).....	75-76
standard for rate purposes.....	Chap. IV, 66-81, 40
terminal land.....	134-143
trend of recent decisions.....	69-71
unit prices.....	206, 211, 907-909
valuation for rate purposes.....	36, 46
valuation of mains and services.....	148-149
versus actual cost as measure of going concern value.....	561-562

Reproduction-cost-less-depreciation:

approved in Alabama railroad rate cases.....	898-900
basis of fair value.....	621
Chicago surface railway appraisal.....	215, 217
Columbus, Ohio, electricity rate case.....	221
controlling factor.....	32-34
defined.....	1124
Des Moines water rate case.....	221
Ely electricity case.....	913-914
functional depreciation.....	386
going concern valuation identified with.....	485-486
Lincoln, Nebr., gas rate case.....	223
Massachusetts Validation Board.....	226
Michigan railroad appraisal.....	227
New York Public Service Commission, 1st District.....	232
overhead charges, Minnesota railroad appraisal.....	228
railroad valuation bill.....	854
South Dakota railroad appraisal.....	233
Washington Railroad Commission.....	235
Wisconsin railroad appraisal.....	237-238

Reproduction-cost-new v. cost-less-depreciation.. Chap. XVIII, 357-

	380, 1118-1169
accrued depreciation and operating efficiency.....	1138-1140
annual-investment-cost method.....	1124-1126
application to heretofore unregulated utility.....	1137-1138
approved rule.....	372-375
Arizona gas and electricity case.....	1146-1148
basis for fair value.....	207-208
bond discount, Washington railroad appraisal.....	276
Chicago gas plant appraisal.....	365-366
Chicago telephone appraisal.....	1148-1150
Columbus electricity rate case.....	368-369
contractor's profit.....	248
cost-less-depreciation defined.....	1124
cost-new approved.....	365-369
cost-new rejected.....	376-380
decisions affecting accrued depreciation.....	1141-1169

Reproduction-cost-new v. cost-less-depreciation—Continued	PAGE
depreciation affected by use, as of car-wheels and rails	1125-1126
depreciation computed on sinking-fund plan	369-371
depreciation deduction, relation to annual allowance	371-372
depreciation defined	1123-1124
depreciation reserve as offset to normal depreciation	1122-1123
depreciation reserve invested in improvements	361-363, 1120-1122
Des Moines water rate case	222
discarded property	195
Duluth street railway rate case	1169
entire initial capital not permanently needed	358-359
four methods of determining annual and accrued depreciation	1126-1136
diagram of the four methods	1133
sinking-fund method	1130-1133
straight-line method, accrued depreciation deducted	1127-1128
straight-line method, accrued depreciation not deducted	1129-1130
uniform-investment-charge method	1130-1131
functional depreciation	385
future functional depreciation	1150-1152
going concern, Wisconsin Railroad Commission rule	545-546
Hayes on deduction of accrued depreciation	1140-1141
Kings County Lighting case	1161-1163
Knoxville water case	1118
Maryland Public Service Commission	1152-1153
Massachusetts appraisal	363-364
Milwaukee street railway rate case	1168-1169
Minnesota rate cases	1119, 1141-1143
Montana railroad rate case	1143-1146
New Hampshire Public Service Commission	1153-1154
New Jersey Public Utility Commission	369-371, 1154-1161
Oklahoma telephone rate case	375-376
New York Public Service Commission, 1st District	376-380
New York Public Service Commission, 2d District	1164-1165
Palo Alto gas rate case	1148
pavement over mains	153-154, 155-156, 157-158
physical depreciation	339-341, 346, 350
promotion	264
railroad valuation bill	854
Railway and Canal Commission of Great Britain	1150-1152
relation to uniform investment cost and rate of charge	359-360
St. Louis Public Service Commission	1165-1167
straight-line method v. sinking-fund method	1120-1122
unamortized depreciation	361
valuation for public purchase	357-358
Washington Public Service Commission	1167-1168
Wisconsin Railroad Commission	366-368
<i>see also</i> REPRODUCTION-COST-LESS-DEPRECIATION	

Reserve fund:

see ACCOUNTS, UNIFORM; DEPRECIATION, ANNUAL ALLOWANCE;
SURPLUS

Return on investment:

see RATE OF RETURN

Return, rate of:	PAGE
<i>see</i> RATE OF RETURN	
Rhode Island Supreme Court:	
franchise value in purchase cases, water plant.....	580-582
going concern value theory.....	557
going concern, water plant purchase.....	452-453
Riggs, Henry Earle:	
appraisal of franchise value.....	633-635
bond discount.....	276
competition in relation to market value theory.....	51
functional depreciation.....	392-393
land appraisal methods.....	145
market value theory.....	50-51
overhead charges.....	241-243, 260
reproduction cost, right of way.....	131-132
solidification.....	313-314
unit prices.....	204-205
Right of way:	
<i>see</i> REPRODUCTION COST	
Ripon, Wis.:	
value of water plant.....	138
Road-bed:	
<i>see</i> APPRECIATION IN LAND VALUE; REPRODUCTION COST	
Ross, Judge:	
fair value for rate purposes.....	22-23
S	
Sague, Commissioner:	
capitalization, basis for.....	813-814
St. Louis Public Service Commission:	
accrued depreciation not deducted.....	1165-1167
appreciation in land value.....	111-112
cost under present or original conditions.....	79-81
expenditures to obtain business.....	1270-1271
franchise value in rate cases.....	1313
land at market value, telephone rate purposes.....	947-948
money properly invested, basis for fair value.....	924-925
original cost, other than land, basis of fair value.....	925-928
overhead charges.....	211, 244-245, 247-248, 257-258, 263-264, 1060-1061
right to earn on inflated capital should be denied.....	888-891
St. Paul, Minn.:	
railroad lands.....	147
valuation of terminal land.....	135-136
Sales method:	
definition.....	144
San Diego, Cal.:	
annual depreciation allowance.....	437-438, 439
California Supreme Court.....	89-93, 163
market value standard impracticable.....	58-59

San Diego, Cal.—Continued	PAGE
present value, not cost, true basis	22-23
rate of return	651
reasonable value at time used	26-27, 27-28
San Francisco water rate case:	
annual depreciation allowance	430
fair value case	28-29, 35-37
franchise value	592-593, 615-618
going concern	482-485
going concern as created income	515-516
market value	54, 57-58
rate of return	655-656, 657-658, 665, 682-683, 694
reproduction cost	75-76
unused land	197-198
Sanborn, Circuit Judge:	
adaptation and solidification	319-320
appreciation in land value	112
cost of reproduction of terminal land	137
grade separation contributions	167
Minnesota railroad rate case	68-69
overhead charges	254-255
reproduction cost, right of way	130
Saunders, District Judge:	
rate of return	660-661, 678-679
Savage, Judge:	
equally efficient plant	76-77
franchise value in purchase cases	584-588
going concern in purchase cases	457-458, 459-460
profits in excess of fair return	181-182
rate of return	658, 703-705
rule for appraisers, Maine condemnation cases	713-720
unit prices	206
Savannah, Ga.:	
street railway case, franchise value	623
Scrap value:	
definition	332, 349
Seaman, Judge:	
functional depreciation	394-395
Seasoning:	
going concern in rate cases	467
Texas railroad rate case	59
<i>see also</i> ADAPTATION; SOLIDIFICATION	
Seattle, Wash.:	
telephone rate case	235-237
terminal land	162
Second-hand machinery:	
prejudice against	336
Services:	
gas plant, valuation of	166
telephone, valuation of	165

Services—Continued	PAGE
water, valuation of.....	163, 165-166
Service value:	
definition.....	95
<i>see also</i> ORIGINAL SERVICE VALUE; REMAINING SERVICE VALUE	
Shaughnessy, Commissioner:	
cost-of-reproduction-less-depreciation.....	913-914
Simonton, Circuit Judge:	
value as a producing factor.....	62-63
Sinking fund method:	
annual depreciation allowance..	410, 411, 414, 415, 417-419, 428-429
depreciation.....	334-338, 342, 346-348, 352, 1112-1115
New Jersey Public Utility Commission.....	369-371
unequalized expenditures, depreciation allowance for.....	361
Sliding scale:	
method of rate regulation.....	710-712
Sloan, Judge Robert R.:	
going concern in rate cases.....	498-499, 1220-1221
Smith, Judge:	
rate of return.....	661-662
Solidification.....	Chap. XVI, 310-328, 1108-1111
Alabama railroad rate cases.....	325-326, 1108
California Railroad Commission.....	1109-1110
definition.....	311
earthwork claim rejected.....	320-322
expense properly charged to maintenance.....	313
included in contingency allowance.....	327
interest charges not permitted on.....	313
irrigation rate case.....	320-322
Massachusetts Validation Board.....	315-317, 326
Minnesota railroad appraisal.....	310-311, 326
Minnesota railroad rate case.....	319-320
New Jersey railroad revaluation.....	1110-1111
New York railroad tax case.....	320
South Dakota railroad appraisal.....	314-315
South Dakota railroad rate case.....	1108-1109
Texas Railroad rate cases.....	317-318
Washington railroad appraisal.....	311-312, 326
<i>see also</i> ADAPTATION; SEASONING	
South Dakota:	
railroad appraisal, bond discount.....	276
railroad appraisal, overhead charges.....	241, 261
railroad rate case, adaptation and solidification.....	1108-1109
South Dakota Railroad Commission:	
adaptation and solidification.....	314-315
appreciation in land value.....	110-111
going concern in rate cases.....	478-479
railroad appraisal, overhead charges.....	232-233
reproduction cost, right of way.....	131

- Special franchise:** PAGE
 definition 635
see also FRANCHISES
- Spokane, Wash.:**
 terminal land 162
- Standards of valuation:**
 abnormal enterprises should be separately classed 820
 actual cost Chap. V, 82-101
 cost of reproduction 66-67
 fundamental standards 39-40
 investment value 50-51
 market value Chap. III, 41-65
 no authoritative determination of 38-39, 818
see also FAIR VALUE
- Stevens, Commissioner:**
 actual-cost theory 929-931
 amortization under limited-term franchise 1119-1200
 appreciated or present value of land 946-947
 capitalization in its relation to fair value 885-887
 contract for water-generated electricity 1363-1365
 depreciation 1115
 fair valuation a matter of judgment 868-871
 fluctuations in prices 1027-1030
 franchise value in rate cases 1312-1313
 going value to be allowed in rate of return 1265-1270
 little-used gas plant 1008-1010
 no rule established for tax, rate, or capitalization purposes 809-813
 overhead charges 265, 1058-1060
 overhead percentages 906-907
 piecemeal construction 1105-1106
 rate of return 1343-1345
 reproduction cost 905-906, 909-911, 979-980
 services paid for by consumers 993
 unit prices 907-909
 unused land 1010-1011
 valuation for rate and for purchase purposes 804-805, 814-815
 working capital 1098
- Stock:**
see CAPITALIZATION; OVERCAPITALIZATION
- Street railroads:**
see ELECTRIC RAILWAYS
- Subcontractor:**
see CONTRACTOR'S PROFIT
- Subways:**
see TUNNELS
- Superintendence:**
 Chicago gas plant appraisal 218
 Cleveland street railway appraisal 220
 Columbus electricity rate case 220
 depreciation of overhead charges 355

Superintendence—Continued	PAGE
Des Moines water rate case.....	222
Minnesota railroad appraisal.....	228
overhead charges.....	210, 238-240
Seattle telephone rate case.....	236
South Dakota railroad appraisal.....	233
Washington Railroad Commission.....	235
Wisconsin railroad appraisal.....	237
Wisconsin Railroad Commission.....	238-239
Supersession:	
definition.....	381-382
<i>see also</i> FUNCTIONAL DEPRECIATION; RATE OF RETURN	
Surplus:	
property constructed from.....	Chap. IX, 176-189
<i>see also</i> BETTERMENTS FROM EARNINGS	
Swain, George F.:	
bond discount.....	273
cost-new <i>v.</i> cost-less-depreciation.....	363-364
grade separation contributions.....	169
overhead charges.....	223-226, 239-240, 243-244, 261
solidification of road-bed.....	315-316
valuation dependent on purpose.....	5-6
Swayze, Judge:	
bases for valuation differ.....	805-806
franchise value in rate cases.....	1309-1312
individual consumers must be served reasonably.....	863-867

T

Tacoma:	
terminal land.....	162
Taxation:	
assessed valuation, Arkansas railroad rate case.....	63-65
Chicago gas plant appraisal.....	218
corporation income tax.....	409
franchise tax.....	415-423, 424-426, 594-595
franchise value.....	12
franchise value appraisal.....	631-639, 1317-1321
franchise value in rate cases.....	1298-1302, 1305-1306
franchise value theory.....	641-642
franchises, rate of return.....	672, 686
going concern valuation, for purposes of.....	487
included in overhead charges.....	210, 266
market value standard.....	63-65
New Jersey revaluation of railroads and canals.....	1317-1321
New York Public Service Commission, 1st District.....	232
physical valuation as basis for.....	6
railroad assessment, going concern in public purchase.....	446-448
street railway, rate of return.....	653-654
valuation for.....	1
value for tax and rate purposes.....	7
<i>see also</i> PURPOSE OF TAXATION	

Taylor, Judge Robert W.:	PAGE
appraisal of franchise value.....	631
going concern in rate cases.....	477-478
overhead charges.....	218-220
valuation of pavement.....	173-174
Taylor, William D.:	
overhead charges.....	237
reproduction cost, right of way.....	128
Telephone plant:	
accrued depreciation.....	1148-1150, 1154-1159, 1165-1169
annual depreciation allowance 410, 415, 431-436, 1182-1186, 1189-1192, 1193-1196, 1200-1202	
bond discount.....	270
contract for rental of transmitters and receivers 1365-1366, 1366-1367	
cost-new <i>v.</i> cost-less-depreciation.....	361-363, 375-376
depreciation.....	1112-1115
excess capacity.....	1017-1018
fair value for rate purposes.....	33-35
franchise value in purchase case.....	1292
franchise value in rate cases.....	620-622, 1304-1305, 1313
functional depreciation.....	1179-1180
future functional depreciation.....	1150-1152
going concern as created income.....	507
going concern in purchase case.....	1206-1207
going concern in rate cases.....	485-488, 1228-1229, 1271-1272
going concern, Wisconsin Railroad Commission rule.....	544
going concern value theory.....	558
interest during construction, Oklahoma rate case.....	255-256
Louisville rate case.....	84-85
overhead charges.....	212-213
overhead charges, Chicago telephone appraisal.....	1037-1038
overhead charges, Lincoln rate case.....	1045-1046
overhead charges, Oklahoma rate case.....	232, 245
overhead charges, Seattle rate case.....	235-237
overhead charges, Southwestern, etc., telephone rate case..	1060-1061
physical depreciation.....	353-354
piecemeal construction.....	306-308, 1105-1107
property constructed out of surplus.....	187-189
property donated.....	992-993
rate of return..660-661, 673, 674-675, 679-680, 684, 711, 1325- 1326, 1331-1334, 1337-1339, 1342	
unit prices.....	206-207
unused property.....	1014-1015
unused property held for sale.....	1005-1006
valuation.....	165, 862-863
valuation, bibliography.....	733
working capital.....	301-302, 1093-1094, 1096-1097
<i>see also</i> PROPERTY DONATED	
Terminal land:	
allowance of reduced return on.....	115-119
availability for railroad purposes enhances value.....	136-137
Minnesota appraisal and rate case.....	135-137
reproduction cost.....	134-143
valuation.....	134-143

Terminal land—Continued	PAGE
value in State of Washington.....	112-113
value of adjacent land increased.....	138-141
Texas railroad appraisal:	
adaptation and solidification.....	312-313
bond discount.....	276
overhead charges.....	241
reproduction cost, right of way.....	128-129
Texas railroad rate cases:	
adaptation and solidification.....	317-318
going concern.....	466-467
market value.....	59-62
Thayer, Judge:	
fair value for rate purposes.....	23-24
Thelen, Commissioner Max:	
fair value of land may be less than market value.....	962-963
going concern in gas rate case.....	1226-1227
land included at actual cost in valuation for rates.....	941-942
law unsettled as to fair value for rate purposes.....	802-803
property donated.....	992
rate of return, Palo Alto gas rate case.....	1329-1330
repaving cost excluded, gas rate case.....	973
Thompson, District Judge:	
going concern in rate cases.....	477
rate of return.....	672-673
Thompson, R. A.:	
reproduction cost, right of way.....	128-129, 132-133
solidification of road-bed.....	312-313
Thorington, William S.:	
franchise value in rate cases.....	625, 1298-1302
reproduction method in valuing railroad land.....	955-957
solidification of road-bed.....	325-326
working capital.....	1090-1091
Timanus, Commissioner:	
pavement not laid by company.....	976
Timlin, Justice:	
responsibility of regulatory commissions.....	694-695
Title to property	
inclusion in valuation not dependent on.....	171-172
Toll bridges:	
<i>see</i> BRIDGES	
Track:	
overhead charges.....	219
present worth method of measuring depreciation.....	339-340
Traeger, John C.:	
annual depreciation allowance.....	1192
bond discount.....	1076
depreciation.....	1116
franchise value in rate cases.....	1303-1304

- Traeger, John C.—Continued** PAGE
- going concern in electric light case.....1229-1231
 - overhead charges, Commonwealth Edison appraisal.....1038-1039
 - rate of return, Commonwealth Edison appraisal.....1334-1335
 - rate of return, surplus to equalize dividends.....1323-1324
 - working capital.....1094-1096
- Tramway and Railway World:**
- physical depreciation..... 341
- Trenton, Mo.:**
- waterworks, pavement over mains.....154-155
- Trial operation:**
- see* ADAPTATION; EXPERIMENTAL OPERATION
- Trieber, District Judge:**
- market value standard for tax purposes.....63-65
 - rate of return.....680-681
- Trolley roads:**
- see* ELECTRIC RAILWAYS
- Tunnels:**
- bond discount, New York subway contract..... 275
 - overhead charges..... 240
- U**
- Uebelacker:**
- physical depreciation.....347-348
- Unearned increment.....59, 89, 108, 140-141**
- see also* APPRECIATION IN LAND VALUE
- Unit prices.....Chap. XI, 202-208, 1023-1030**
- Alabama railroad rate cases.....1025-1026
 - allowance for contractor's profits.....246-247, 248, 1024
 - average price for period equal to construction period.....206-207
 - average price *v.* present price.....1025-1030
 - copper wire, average prices used.....1026-1027
 - definition.....1023-1024
 - fluctuations in price of cast iron water pipe.....203, 1027-1030
 - manufacturers' quotations.....1025
 - Michigan railroad appraisal.....204-205
 - Minnesota railroad appraisal..... 205
 - New Hampshire Public Service Commission.....1026-1027
 - neither highest nor lowest prices should govern.....205-206
 - New York Public Service Commission, 1st District.....205-206
 - New York Public Service Commission, 2d District.....1027-1030
 - overhead charges.....1024
 - overhead charges included..... 211
 - piecemeal construction.....309, 1024
 - solidification..... 312
 - Wisconsin Railroad Commission.....1024
- United States Commerce Court:**
- cost of supersession on operating expense.....1170-1177

United States corporation tax:	PAGE
annual depreciation allowance.....	409
appreciation treated as income.....	123-124
United States Supreme Court:	
interests of both public and owner considered.....	840-841
Knoxville water case.....	875-876
Louisville telephone rate case.....	1325-1326
Minnesota rate cases....	848-851, 893, 935-936, 949-955, 1141-1143
Missouri rate cases.....	851-852, 893-894
rate of return, telephone case.....	1325-1326
valuation for tax and for rate purposes not the same.....	806-807
value of service to consumers.....	842-848
water rights.....	1369-1370
Unused property.....	Chap. X, 190-201, 1005-1022
Arizona Corporation Commission, excessive investment.....	1013
California Railroad Commission, emergency plant.....	1011-1012
Canadian Board of Railway Commissioners.....	1014-1015
Des Moines gas rate case.....	194-195
discarded property.....	190-192, 194-195
emergency electric plant.....	1011-1012
excessive investment in plant.....	198-201
gas plant purchased to avoid competition.....	1007-1010
inclusion of river intake and filter galleries.....	192-194
land acquired in advance of present need.....	195-198
Lincoln, Nebr., telephone rate case.....	1017-1018
Massachusetts Gas and Electric Light Commission.....	1015-1017
Nevada Public Service Commission.....	1018-1019
New Hampshire Public Service Commission.....	1012-1013
New Jersey Chancery Court.....	200-201
New York Public Service Commission, 1st District	195-197,
	1006-1007
New York Public Service Commission, 2d District.....	1010-1011
San Francisco water rate case.....	197-198
telephone exchange building, San José.....	1005-1006
Wisconsin Railroad Commission.....	190, 191-194
Utility value:	
definition.....	332
physical depreciation for rate purposes based on.....	342

V

Valuation:

see BETTERMENTS FROM EARNINGS; CONTRACT; LAND; PURPOSE
 OF VALUATION; STANDARDS OF VALUATION; TAXATION

Value:

 "amount" recommended as a more satisfactory term..... 855-856
 compared with cost..... 5
 in rate cases, definition..... 567
 see also ACCOUNTING; ACTUAL COST; BOOK VALUE; FAIR VALUE
 FOR RATE PURPOSES; FRANCHISE VALUE; MARKET VALUE; ORIG-
 INAL SERVICE VALUE; PRESENT VALUE; PURPOSE OF VALUA-
 TION; REMAINING SERVICE VALUE; REPRODUCTION COST; STAND-
 ARDS OF VALUATION; WEARING VALUE

Value of service:	PAGE
electric railway.....	56
railroad.....	56
reasonableness of rates.....	36
waterworks.....	36, 56, 57-58

Van Fleet, Judge:	
actual cost the standard of value for rate purposes.....	90-92
bonded debt not proper basis of fair value for rates.....	880-881
market value standard impracticable.....	58-59
property donated, water rate case.....	163
rate of return.....	651

W

Waite, Chief Justice:	
control over rate regulation.....	2-3

Washington Public Service Commission:	
<i>see</i> WASHINGTON RAILROAD COMMISSION	

Washington Railroad Commission:	
accrued depreciation.....	1167-1168
actual cost, determination of.....	86
bond discount.....	276, 277-278
fair value for rate purposes.....	39
functional depreciation.....	389-390
going concern in telephone rate case.....	1271-1272
market value.....	45-50, 55
misplaced or partially obsolete plant.....	55
name changed and jurisdiction extended.....	48-50
overhead charges.....	233-235, 241, 261, 353-354
reproduction cost, right of way.....	128, 161-162
reproduction cost, terminal land.....	140
solidification.....	311-312, 326

Washington Supreme Court:	
annual depreciation allowance.....	407-409
rate of return, electric railway rate case.....	684-685

Washington valuation statute.....	48-50
--	--------------

Water power:	
contracts:	
Arizona Corporation Commission and Federal Court..	1354-1356
Nevada Public Service Commission.....	1356-1357
New York Public Service Commission, 2d District. ...	1362-1365
Wisconsin Railroad Commission.....	1361-1362
water rights, United States Supreme Court.....	1369-1370
<i>see also</i> CONTRACTS, WATER POWER, AND PATENT RIGHTS	

Waterworks:	
actual cost.....	89-94, 95-96
annual depreciation allowance..	408, 415-417, 419-421, 428, 430,
	437-438, 439, 1203-1204
appraisal of franchise value.....	635-636, 637-639
appreciation of land value.....	103
bond discount.....	269-270, 278-284
cost-new <i>v.</i> cost-less-depreciation.....	367-368, 372-375

Waterworks—Continued**PAGE**

depreciation, bibliography.....	745
equally efficient plant.....	73-75, 76
fair value for rate purposes.....	35-37
franchise value in purchase cases..	573-575, 579-582, 583-588, 589-590, 1295-1297
franchise value in rate cases.....	592-593, 613-618, 1313-1314
functional depreciation.....	395-397
going concern as created income....	504-507, 511-512, 513, 515-516
going concern in public purchase..	440-446, 448-451, 452-454, 456-463
going concern in purchase case.....	1209-1213
going concern in rate cases.....	468, 474-475, 477, 480-485, 489-491
going concern value theory.....	557, 563-565
going concern, Wisconsin Railroad Commission rule..	523-524, 533, 535-541, 544, 545, 546-547, 548-551, 1274-1275, 1277- 1279, 1280-1284, 1289-1291
identical reproduction of existing plant.....	72
Maine condemnation cases, rules for appraisers.....	713-720
market value standard impracticable.....	58-59
Memphis appraisal.....	226-227
misplaced or partially obsolete plant.....	56, 57-58
monopoly value.....	54
overhead charges:	
Des Moines Rate Case.....	221-222
Falmouth, Mass., water plant.....	251-252
Knoxville case.....	262-263
Maine Supreme Court.....	253
Massachusetts Joint Commission.....	240
New Jersey Chancery Court.....	253
Oshkosh purchase case.....	1067
Wisconsin Railroad Commission.....	238-239, 246
pavement over mains.....	153-156
physical depreciation.....	335-337, 351-353
piecemeal construction.....	304-305, 306
property constructed out of earnings.....	180-182
public purchase, development of.....	2
rate of return.....	1347-1349
reasonable value at time used.....	26-29
services.....	163, 165-166, 995-996
solidification of earthwork.....	320-322
unit prices.....	203-204, 206
unused property.....	192-194, 197-199, 200-201
valuation, bibliography.....	733-735
Wisconsin Railroad Commission.....	138, 1102-1104
working capital.....	289-293, 300-301
<i>see also</i> FAVORABLE LOCATION; PROPERTY DONATED	

Wear:*see* NORMAL WEAR**Wearing value:**

definition.....	332
-----------------	-----

Weaver, Judge:

going concern in rate cases.....	468
rate of return.....	654-655

INDEX

1441

West Virginia Supreme Court:	PAGE
actual cost the standard of value for rate purposes.....	94-95
Westinghouse, Church, Kerr and Company:	
overhead charges.....	224
Wilcox, Delos F.:	
treatment of extraordinary supersession.....	392
Willard, District Judge:	
adaptation and solidification.....	1109
reproduction method and use of multipliers.....	958-960
Williams, Benezette:	
going concern as created income.....	502-504, 505-506, 512
going concern, Wisconsin Railroad Commission rule.....	550-551
Williams, Judge:	
actual cost the standard of value for rate purposes.....	93
property constructed out of earnings.....	181
Willoughby, J. E.:	
constructing railroads anew.....	830
equally efficient plant.....	76
overhead charges.....	240-241
Winslow, W. H.:	
accrued depreciation.....	1118-1120
sale value and rental value.....	1119-1120
Wisconsin railroad appraisal:	
adaptation and solidification.....	312
bond discount.....	276
land appraisal methods.....	144
overhead charges.....	237-238, 241, 260
reproduction cost of terminal land.....	134-135
Wisconsin Railroad Commission:	
adequate investment.....	1021-1022
annual depreciation allowance.....	409-413, 1202-1204
Appleton water rate case.....	95-96
appreciation in land not an offset to depreciation.....	948-949
appreciation in land value.....	108-109
average price <i>v.</i> present price.....	208
bond discount.....	1087-1089
cost-new <i>v.</i> cost-less-depreciation.....	366-368
depreciation in land the loss of the owner.....	949
depreciation of overhead charges.....	354
depreciation reserve.....	1168-1169
determination of actual cost.....	85-86
discount on bonds.....	269, 278-284
donated right of way and easements.....	993-995
elements of physical valuation.....	35, 1087-1089
excessive investment in plant.....	199
fair value for rate purposes.....	39, 871-874, 891-892
franchise value in purchase cases, electricity plant.....	588-589
franchise value in rate cases.....	613-615, 1313-1315
functional depreciation.....	399-400, 1177-1178, 1180-1181
going concern as created income.....	513
going concern value theory.....	557-558, 563-565

Wisconsin Railroad Commission—Continued

PAGE

land appraisal methods.....	144-146
overhead charges.. 211-212, 238-239, 246, 256-257, 1063-1067, 1068	
patent rights, capitalization of.....	1367-1368
paving reproduction cost, purchase cases.....	985-989
paving reproduction cost, rate cases.....	983-985
pavement over mains.....	151-154
physical depreciation.....	335-337
piecemeal construction.....	304-306
rate of return.....	696-700, 708, 1345-1349
reproduction cost, right of way.....	128
saving of water power over steam power.....	1361-1362
services provided at consumer's expense.....	165-166
unit prices.....	202-204
unused property.....	190, 191-194
valuation for tax and for rate purposes not the same.....	808-809
value for rate and public purchase.....	15
water services, purchase case.....	995-996
working capital.....	290-294, 1100-1104
<i>see also</i> GOING CONCERN; WISCONSIN RAILROAD COMMISSION RULE	

Wisconsin Supreme Court:

going concern in waterworks purchase case.....	1209-1213
pavement over services excluded in purchase case.....	986-989
value of indeterminate permit, waterworks case.....	1295-1297

Wisconsin Tax Commission:

reproduction cost, right of way.....	126-127, 128
--------------------------------------	--------------

Witt, Carl C.:

adaptation and solidification of road-bed.....	314-315
going concern in rate cases.....	478-479
overhead charges.....	232-233
reproduction cost, right of way.....	131

Wood, Commissioner:

value for tax and rate purposes.....	7-8
--------------------------------------	-----

Woodhouse, Sir James:

brokerage.....	1079-1083
depreciation.....	1114-1115
functional depreciation.....	1151-1152
going concern in telephone purchase case.....	1208
overhead charges, contingencies.....	1070
overhead charges, contractor's profits.....	1071-1072

Woolson, District Judge:

equally efficient plant.....	73
------------------------------	----

Working capital..... Chap. XIV, 287-303, 1090-1194

Arizona gas and electricity case.....	1091-1092
Buffalo gas rate case.....	1097-1100
capitalization.....	288-289
Chicago gas plant appraisal.....	298-299
Chicago telephone rate appraisal.....	1093-1094
Commonwealth Edison appraisal, Chicago.....	1034-1036
definition.....	295
Des Moines gas rate case.....	1091
estimated for tax purposes in Great Britain.....	289-290

Working capital—Continued

	PAGE
Iowa gas and water rate case.....	300-301
Lincoln, Nebr., gas rate case.....	301
Lincoln, Nebr., telephone rate case.....	1096-1097
Louisville telephone rate case.....	301-302
Milwaukee street railway rate case.....	1104
New York Consolidated Gas case.....	294-296
New York Public Service Commission, 1st District.....	296-298
New York special franchise tax case.....	302-303
no fixed rule for computing.....	298
Public Service Gas Company case.....	1097
Puget Sound Electric Railway.....	46-48
Sheboygan gas rate case.....	1100-1102
small influence on total value.....	288
Superior water, gas, and electricity rate case.....	1102-1104
Tucson gas and electricity rate case.....	1092-1093
Western of Alabama Railway rate case.....	1090-1091
Wisconsin Railroad Commission.....	290-294

